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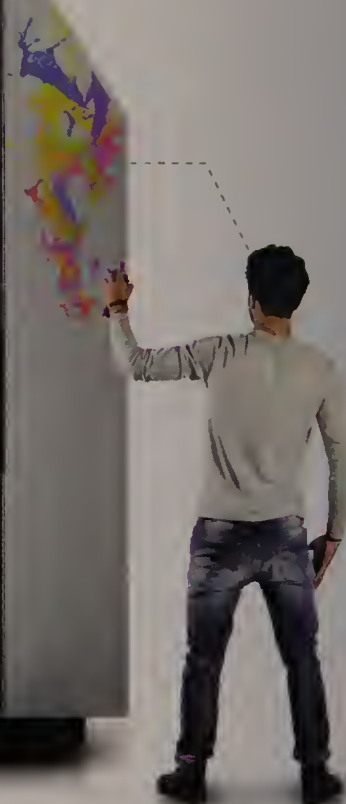
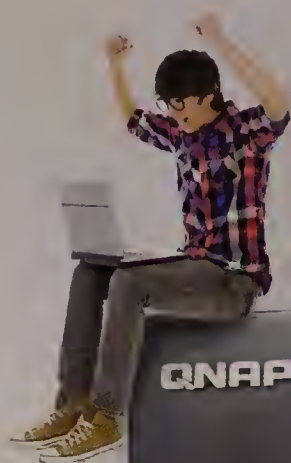
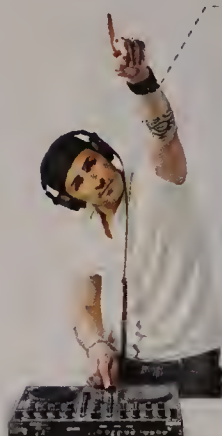
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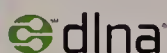
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Peter Belanger

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*Human thermal sensation to air movement frequency, Yizai Xia, Rongyi Zhao and WeiQuan Xu (2000)



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Don't Fear OS X Fragmentation

Whispers of platform fragmentation and security vulnerabilities in Mac OS X overstate the case.

Think platform fragmentation is something that only Android users need to worry about? Over at Sophos's NakedSecurity blog (go.macworld.com/naksec), Chester Wisniewski thinks Mac users should worry, too. Why? Because with the increasing pace of OS X updates, users who don't or can't update to the latest version of Mac OS may be left vulnerable to security exploits. Wisniewski claims that "Apple appears to have stopped releasing security updates for OS X 10.6.8, 10.7.5, and 10.8.5."

But before you fly into a panic and start yanking the power cords out of all your old Macs, let's take a closer look at Wisniewski's assertions.

Enterprise Focus

First of all, Wisniewski's examples come largely from the enterprise market. According to the figures he posts, 82 percent of enterprise Mac users are at risk because they haven't updated to OS X Mavericks. But in the enterprise sector, adoption rates are generally slower than among consumers, anyway. In fact, the plurality of enterprise users are still using OS X Mountain Lion, with smaller (but not insignificant) contingents continuing to use Lion and Snow Leopard.

As if that sample of the overall OS X market weren't limited enough, it's also worth noting that Wisniewski's numbers are based on enterprise users who have installed Sophos Antivirus for Mac Home Edition (go.macworld.com/sophosavmac). That antivirus program might be attractive to some companies because it's free. But Sophos also sells a wide range of products that specifically target the enterprise. So while enterprise users of the Sophos product that the company designed for home use might account for a sizable number of computers, it's far from clear



Patching vulnerabilities on older versions of the OS is important, but it may take a back seat to fixing the current version.

whether the users who fall into that particular subset are truly representative of the enterprise market as a whole.

The End of Security?

And what about Wisniewski's claim that Apple has stopped releasing security updates for earlier versions of OS X? The most recent update was 2013-004, which Apple released on September 12 of last year; it was issued in Snow Leopard and Lion versions. Mountain Lion users got 10.8.5, which received additional security patches in October. Mavericks was released in late October, with a 10.9.1 update arriving in December. Apple also patched both version 6 and version 7 of Safari in December, which brought new fixes to Lion and Mountain Lion (though not to Snow Leopard).

The fact is that Apple regularly goes months between releases of security

updates. And while patching vulnerabilities on older versions of the operating system is certainly important, such work understandably may take a back seat to fixing the current version of the OS. Either way, it seems too soon to declare that Apple has given up on providing all support for previous versions of OS X.

Finally, Wisniewski contends that Apple has elected to leave older users out in the cold. "It is a nice gesture that OS X 10.9 Mavericks is a free upgrade, but not everyone can upgrade," he writes. "OS X 10.8 Mountain Lion has only been available for 15 months and is apparently already orphaned."

Orphan With an Upgrade Path

Calling Mountain Lion "orphaned" is a bit misleading, however. Every Mac that's capable of running Mountain Lion is also capable of running Mavericks. In that sense, Mavericks provides a full upgrade path for Mountain Lion users.

The situation with Lion is a little more difficult: Most Macs running Lion can handle Mavericks—the newest machine that can't is from 2008, and there are only a handful of them. Snow Leopard, for its part, has been relegated to being the OS of choice for many legacy machines; and while using it shouldn't mean you're denied security updates, you have to know what you're getting into when your operating system is five years old and has been superseded by three later updates.

Wisniewski and I are in agreement about one thing: Apple should publicly state what level of support it's providing for older versions of OS X and for how long, especially if it plans to continually release new major updates every year. But while staying up to date with security patches may be a concern, fragmentation on the Mac and fragmentation on Android are still two very different ball games.

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April 2014, Volume 31, Issue 4

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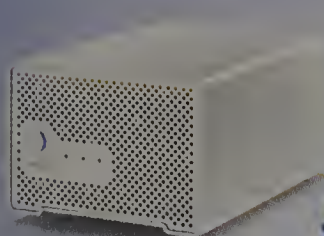
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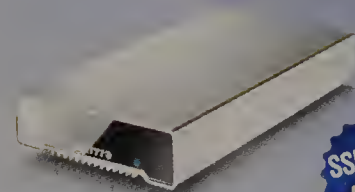
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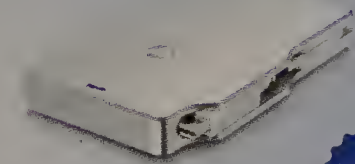
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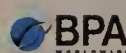
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Creative Computing

In this issue, we delve into iLife (see page 46) and iPhone photography (see page 37), while our readers share the ways they use their Macs and iOS devices to make music, create art, and cut together movies.

GARAGEBAND AND IMOVIE LESSONS

My wife and I jam, and we experimented with GarageBand back in the early Intel days. We even bought a Lexicon interface to get our guitars and mics into the mix.

Our new quad-core i7 with fusion drive and 8 gigs of RAM may just overcome that propagation delay. Now the only question is where did we put that Lexicon gizmo?

—TheHeeNow, via Macworld.com

In 2005 I made a DVD on my G5 without having to read any help files for iMovie. Yesterday I wanted to edit a short clip with iMovie 10 and was immediately flummoxed. I don't think Apple is taking the same care that it used to.

—KrasniOktabr, via Macworld.com

As someone who is getting used to editing in Final Cut Pro X (great app!), I'm impressed by how many features are included in the new version of iMovie. Some they don't even tell you about, like controlling forward and reverse playback (along with speed) by using the J, K, and L keys on your keyboard.

—ronblau, via Macworld.com

PHOTO POWER

I used to spend a lot of time organizing and editing my photos. Now, I just take hundreds of photos with my iPhone (mainly outdoors) in the hopes of getting a few dozen "quality" shots.

All reader communications to Macworld—through mail, email, and our social networking accounts—are presumed to be intended for publication. We reserve the right to edit them for length and clarity.

I move those to a folder named ATV [Apple TV] and add a little light jazz background music and stream them over to my flat-screen TV.

My girlfriend thinks I'm a genius. When we have friends over, we have the TV Ken Burns-ing the photos, and the music playing low. My friends just love it. They keep watching to see when the next photo of them comes on. (I always make sure to include a few pictures of them!)

We get to see our photos a lot more with this approach. And this feature alone is worth the cost of an Apple TV.

It used to be that people kept their photos in a shoebox, then in photo albums, and later on the computer.... Ugh! An Apple TV is the way to go!

—clh126, via Macworld.com

When you take a picture [with an iPhone], the focus bounces back and

ARTISTIC TWEETING

Readers tell us what they use their Macs and iOS devices to create.

@JesseSwinger: I use my new iPad air with Serato Remote to add to my DJ sets.

@jhd_itfc: Mixed-media artist in ATL. Wouldn't be able to do my art without my mbp & iPhone—collaging photos and imagery into my paintings.

@thesnuffy: I use my iPhone (and GarageBand) to record the audio, and occasionally use another iPhone for video and Final Cut on my Mac.

forth between the foreground and the background even after you focus on an object. So I loved discovering that you can lock the focus. I just wish it hadn't taken me four years to learn that trick.

—munroev, via Macworld.com

THROUGH THE LENS: OLD AND NEW

Reader Hrvoje Gradecak sent us his creative Mac and iOS setup, which includes almost two decades' worth of Macs! See if you can spot them all.

Have a great Apple-centric photo? Send it to letters@macworld.com, and we may feature it in a future issue.



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iMacs: Faster Than Before

A couple of months after our look at the entry-level iMac, we put the other three standard configurations through our benchmarks.

BY JAMES GALBRAITH

Review

21.5-INCH, 2.9GHZ

RATING
★★★★

PRICE
\$1499

27-INCH; 3.2GHZ,
3.4GHZ

RATING
★★★★

PRICE
\$1799, \$1999

COMPANY
Apple

URL
apple.com

In the January issue (page 16), we reviewed the \$1299 entry-level 2013 iMac, the first of the new iMac models we could get our hands on. And now that we've brought the other three standard-configuration iMacs into the Macworld Lab to test, we've taken a good look at the rest of Apple's iMac line.

All four iMacs have a quad-core Intel Core i5 (Haswell) processor, 8GB of memory, and a 1TB hard drive. The 21.5-inch units have 5400-rpm drives, while the 27-inch iMacs come with 7200-rpm drives. The memory in the 21.5-inch iMacs is not

user-upgradable, whereas each 27-inch iMac ships with memory in just two of its four user-accessible DRAM slots.

The \$1499 21.5-inch model carries a 2.9GHz quad-core Core i5 processor and Nvidia GeForce GT 750M discrete graphics with 1GB of video memory. The \$1799 27-inch iMac features a 3.2GHz quad-core Core i5 processor and Nvidia GeForce GT 755M discrete graphics with 1GB of video memory. At the high end, the \$1999 stock iMac offers a 3.4GHz quad-core Core i5 plus Nvidia GeForce GT 775M discrete graphics with 2GB of video memory.

Like the late-2012 models, the new iMacs have four USB 3.0 ports, dual Thunderbolt ports, an SDXC card slot, and a gigabit ethernet port. They do not, however, have Thunderbolt 2 ports (found in the latest Mac Pros and MacBook Pros)

or FireWire ports (found in iMacs predating the late-2012 models).

Like their predecessors, the new iMacs have glossy widescreen displays with LED backlights and IPS panels. The resolution remains 1920 by 1080 on the 21.5-inch versions and 2560 by 1440 on the 27-inch iMacs. The iMacs offer excellent viewing angles, with no color shifts or loss of contrast as you move away from the

center of the screen. The glass cover is adhered to the display, not held on by magnets as in the aluminum iMacs issued before 2012. Although such changes help to reduce glare significantly, they make servicing recent iMacs much harder.

Customization Options

If you think you might want a larger or faster internal drive, it's best to customize your iMac at the time of purchase. Options for the \$1499 21.5-inch model include 256GB or 512GB of flash storage (\$200 or \$500, respectively) or a 1TB Fusion Drive (\$200), which combines 126GB of fast flash storage and a 1TB hard drive in a single volume that performs much like an SSD but has the capacity of a hard drive. Upping the RAM from 8GB to 16GB costs \$200. You can upgrade the higher-end 21.5-inch iMac's processor to a 3.1GHz quad-core Core i7 for another \$200.

Options for the 27-inch models offer the same storage choices as the 21.5-inch iMacs but also include a 3TB hard drive for \$150, a 3TB Fusion Drive for \$350, or 1TB of flash storage for a cool \$1000. You can configure the 27-inch models with 32GB of RAM for an additional \$600, as well. For the high-end 27-inch iMac, you can

The 2013 2.9GHz iMac was 20 percent faster than its predecessor in iMovie, thanks to improvements that Intel made in Haswell's Quick Sync Video feature.

upgrade to a 3.5GHz Core i7 for \$200, and upgrade the graphics to a GTX 780M with 4GB of video RAM for an extra \$150.

Performance Results

In our tests, the \$1499 iMac was 5 percent faster overall than the 2012 2.9GHz quad-core Core i5 (Ivy Bridge) iMac it replaces. The iPhoto, Photoshop, and Mathematica-Mark scores for the new models and their predecessors were within 2 percent of one another. The 2013 2.9GHz iMac was 20 percent faster in iMovie, thanks to improvements Intel made in Haswell's Quick Sync Video feature. HandBrake encoding was 17 percent faster on the new \$1499 iMac.

Notably, all the new iMacs fell behind their 2012 antecedents in our folder zip and unzip tests. At first we suspected the hard drive, but the 2013 and 2012 low-end 27-inch iMacs use the same 1TB Seagate Barracuda ST1000DM003 drive. While monitoring processor utilization during the zip test, we noticed that the test employs a single processor. We saw that although the Haswell processor in the 3.2GHz 2013 27-inch iMac would run at a higher rate than the 2.9GHz Ivy Bridge chip in the 2012 27-inch iMac (both can go up to 3.6GHz in Turbo Mode), the Haswell processor often dropped as low as 800MHz; the Ivy Bridge processor, in contrast, maintained a more consistent speed, falling to 1.6GHz only occasionally.

We also tried running the zip test with a 480GB Thunderbolt Helios +E2 drive—and while the 2012 iMac was only a bit faster with that drive, the new iMac with the Helios finished the task 130 seconds faster, in line with the older iMac. We suspect Haswell's energy-saving features may be kicking in as the processor waits on the slower hard drive to provide data to crunch. We're investigating this result.

Like the 21-inch iMac, the new low-end \$1799 27-inch iMac was 5 percent faster overall than its predecessor. The new model was 14 percent faster in our Hand-

Brake Encode test, and 28 percent faster in our iMovie test. In the Cinebench OpenGL test, the new iMac's Nvidia GeForce GT 755M helped the system post frame rates 17 percent higher than those of the older iMac and its GeForce GTX 680M hardware.

The high-end \$1999 27-inch iMac was 15 percent faster overall than the 2012 high-end stock iMac. It was also speedier than the older iMac in all but the aforementioned zip and unzip tests. Highlights included a 42 percent faster iMovie result, 18 percent faster Handbrake times, and 28 percent faster file and folder copy times.

Tests of our CTO 27-inch iMac (which we also reviewed in the January issue, page 17) showed that the Fusion Drive and processor upgrade give the custom system a noteworthy performance boost. The custom 2013 iMac was 39 percent faster overall than the top-of-the-line stock \$1999 iMac. The CTO iMac's 3.5GHz quad-core Core i7 processor helped it outpace the high-end iMac and its 3.4GHz Core i5 processor in Cinebench's CPU test, MathematicaMark, and HandBrake by 25, 19, and 16 percent, respectively. And our 6GB folder-copy test took just 41 seconds on the custom iMac with Fusion Drive, versus 103 seconds on the high-end stock iMac.

Bottom Line

The new iMacs have the same strengths and weaknesses as the 2012 iMacs that ushered in the current design: strikingly thin edges and decreased screen glare, at the cost of eliminating the optical drive from the iMac line and scrapping RAM upgradability in the 21-inch models. The new stock models are faster than their predecessors in most tests, but CTO options can really increase performance.

Want secrets for making your Mac work better? Check out our tips-and-troubleshooting session at Macworld/iWorld in San Francisco, March 27–29 (www.macworldiworld.com).



Thunderbolt 2 Cables: Longer and Pricier

BY AGAM SHAH

Optical cables that connect peripherals to the Thunderbolt 2 ports in newer Macs are becoming both longer and more expensive.

Other World Computing now sells, for \$899, a 30-meter Thunderbolt 2 optical cable (go.macworld.com/owctb30) that can carry 4K video streams from a Mac to a 4K monitor. OWC also offers a 10-meter version for \$319, and a 20-meter one for \$619.

At the CES 2014 trade show, Corning demonstrated optical cables stretching 200 feet, or 61 meters, that are also Thunderbolt 2 compatible. The technology transfers data at speeds of up to 20 gigabits per second.

Thunderbolt cables come in optical and copper varieties. For longer distances, optical offers faster data transfers but costs more. Optical cables require a power source, too, whereas copper cables carry power.

Because optical cables are pricey, products such as OWC's 30-meter cable may for now appeal only to creative professionals using Mac Pro desktops to make 4K content. Over time the price of optical cables will fall. Intel is also developing faster Thunderbolt technologies that could reach 50 gbps, a point at which more users will likely transition to optical cables.

The New Mac Pro Makes the iMac the Power-User Desktop

BY DAN FRAKES

As the lucky guy who got to review the 2013 Mac Pro (see page 12 in the March issue, or visit go.macworld.com/pro13), I've spent quite a bit of time with it. One thing that struck me is that in addition to radically changing Apple's professional-desktop line, it illustrates the changing face of "power-user" computing.

Not long ago, if you wanted a really powerful computer, or one with a lot of storage, or one that could handle the latest games, you looked to the Mac Pro line—even if you didn't work with video, perform 3D rendering, or do scientific modeling. The Mac Pro was as much a computer for power users as it was for people doing professional work.

These days a lowly Mac mini packs an impressive amount of power, while the iMac and MacBook Pro are veritable power-houses for many tasks. You no longer need to go Pro to obtain a Mac that can handle demanding workflows, and if you aren't regularly using professional applications, you may actually find a tricked-out iMac to be faster than the latest Mac Pro.

Back in 2010 I gave up my Mac Pro for a 2.93GHz Core i7 iMac. I was tired of the power usage, heat, and noise of the Mac Pro, and I didn't need all the expansion slots and high-end, high-priced features. I expected to miss the Pro's extra hard-drive bays, but I substituted a few external Fire-Wire 800 enclosures, and the setup has worked out fine. I upgraded the RAM to 16GB inexpensively, and with a little elbow grease I swapped out the stock hard drive in favor of a 3TB drive, installed a 256GB solid-state drive, and created a DIY Fusion Drive from the two. The result is a com-

puter that, when running Geekbench 3 benchmarks, is comparable in single-core performance to a 2012 quad-core Mac Pro; and it doesn't lag too far behind that Mac Pro in multiple-core performance, either.

The Pro Is for Pros

While older Mac Pro models appealed to a broad range of demanding users, the 2013 Mac Pro focuses almost entirely on the things true professional users need: multiple-core performance, workstation-class GPUs and GPU computing, fast I/O, and the like. Say what you will about the new Mac Pro's lack of internal-expansion options, but Apple doesn't appear to have spared much expense on the components it did include. The new Mac Pro is the first Mac in a long time that's clearly intended for genuine professional users.

It's priced that way, as well. The Mac Pro starts at \$2999, and you can build a system without any peripherals or displays that costs nearly \$10,000. To be fair, the prices of Mac Pro models have been relatively stable over the past three or four years, so this isn't uncharted pricing territory. The difference, however, is that over the same span of time, Apple's iMac line has become cheaper (in both nominal and real dollars), and the performance at each price tier has increased even faster, for many tasks, than the performance of the Mac Pro line.

Though I wouldn't refuse a new Mac Pro if *Macworld's* IT staff placed one on my desk, if I were given \$3000 to spend on a desktop Mac, I'd be hard-pressed to choose the entry-level Mac Pro instead of

a 27-inch iMac with a 3.5GHz quad-core Intel Core i7 processor, 32GB of RAM, a 3TB Fusion Drive, and an Nvidia GeForce GTX 780M GPU. The iMac would be competitive in performance, would include a great 27-inch display, and would occupy less space on my desk than a Mac Pro with a separate display.

(A similar case could be made for picking a MacBook Pro over a Mac Pro: \$2799 gets you a 15-inch model with a 2.6GHz quad-core Intel Core i7 CPU, 16GB of RAM, 512GB of flash storage, and dual GPUs.)

Power-User Progress

I might sound disappointed with the new Mac Pro, but that's not the case. On the contrary, I'm especially impressed by the rest of the Mac line. It's fantastic that people whose needs are more demanding than those of the typical user, but not in the realm of a pro-app user, no longer have to splurge on a Mac Pro. The new Mac Pro is a pretty great computer. It's just no longer the Mac for me.

If you aren't regularly using professional applications, you may actually find a tricked-out iMac to be faster than the latest version of the Mac Pro.

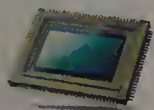


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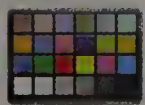
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Breathing New Life Into Old Mac Pros

BY JAMES GALBRAITH

Considering that the new Mac Pro is more of a specialized workstation than a general-purpose computer, we wanted to see whether upgrading our 2012 Mac Pros would help to close the performance gap with the latest model.

We started with our stock 2012 quad-core and dual-six-core (12 cores total)

Mac Pro systems and upgraded them with fast flash storage in the form of OWC's Mercury Accelsior E2 PCIe SSD (\$630), as well as 32GB of RAM from Crucial and a faster Sapphire HD 7950 Mac Edition (\$500) graphics card.

Speedmark 9

The stock 2012 quad-core 3.2GHz Mac Pro with a 1TB hard drive, 6GB of RAM, and Radeon HD5770 graphics earned a Speedmark 9 score of 171. After our upgrade, the same system earned a score of 241, or 41 percent higher than the score of the stock system. As you might expect, our processor-intensive tests showed little difference after the upgrade, but our folder copy and uncompressing tests proved to be much faster with the addition of the Accelsior solid-state storage. The upgraded 3.2GHz quad-core Mac Pro copied a 6GB folder from one part of the drive to another in less

than one-fifth of the time of the stock model. In the Unigine Heaven and Valley benchmarks, the Sapphire graphics card we installed displayed twice the number of frames per second that the Radeon HD 5770 the Mac Pros shipped with did.

Despite those performance gains, however, the 2013 Mac Pro was 45 percent faster overall than the upgraded quad-core 2012 Mac Pro. And although upgrading the 12-core 2012 Mac Pro raised its Speedmark 9 score by a healthy 31 percent, the new 8-core Mac Pro was still 37 percent faster overall than that updated 12-core model.

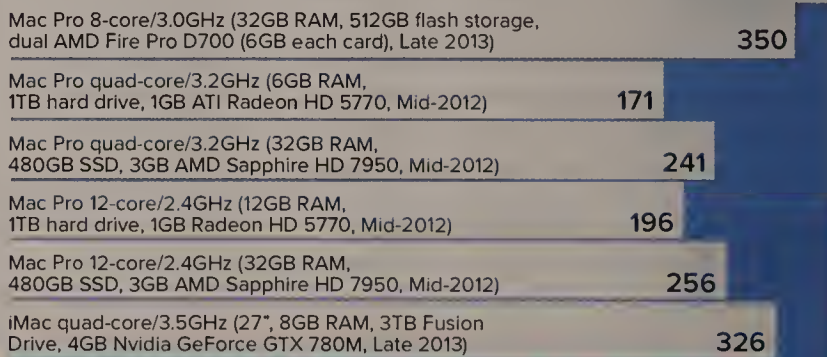
We also ran a new Photoshop action script consisting of tasks that take advantage of hardware acceleration. In this test the beefed-up 2012 quad-core Mac Pro was 31 percent faster than the stock model, but the new Mac Pro was still faster—22 percent faster—than the upgraded 2012 Mac Pro. Our CTO 2013 27-inch iMac posted scores similar to those of the upgraded 12-core 2012 Mac Pro in this test.

Final Cut Pro X

In our Final Cut Pro X tests, the new Mac Pro significantly outperformed the stock 2012 Mac Pros, but the upgrades helped the older machines. With the quad-core 2012 Mac Pro, import time in Final Cut Pro X decreased from 131 seconds (stock) to

Macworld Lab Test

Benchmarks: Speedmark 9



Results are scores. Higher results are better. Macworld Lab testing conducted by James Galbraith and Albert Filice.

just 26 seconds (upgraded).

Our CTO 2013 iMac was quite a bit faster than the stock 2012 12-core Mac Pro in our Final Cut import test, but the upgraded 2012 12-core Mac Pro finished the import in half the time of the iMac.

The stock Mac Pros took twice as long to render our test Final Cut Pro X project as the CTO iMac did. After the upgrade, the 12-core system rendered the job 25 percent faster than the CTO iMac did, but the quad-core machine was still 25 percent slower than the CTO iMac.

In another test, we substantially increased the Final Cut Pro X project length to see how the new Mac Pro would fare under a more sustained load. To do so, we took 30 minutes of 4K video, applied various effects to the footage, and then rendered the project. The stock 2012 quad-core Mac Pro took over 70

minutes to process the clip. After the upgrade, the quad-core Mac Pro knocked 19 minutes off that time. The stock 2012 12-core Mac Pro took just over 64 minutes to finish our longer Final Cut Pro test; after the upgrade it took about 39 minutes. The upgraded 12-core unit rendered the project in about the same amount of time as the CTO iMac. The new Mac Pro ranked first yet again in this test, taking just 25 minutes

to render the project, and finishing the task 36 percent faster than the upgraded 12-core 2012 Mac Pro.

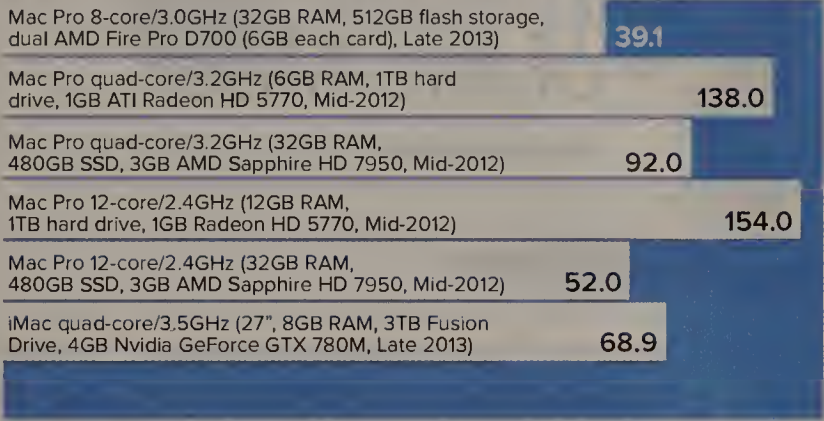
Xcode

Several readers asked us to run an Xcode project on the new Mac Pro. For this CPU-intensive test, we cloned the code repository for OpenEmu onto our Mac Pros and CTO iMac, and used the Xcode command-line tools to build the project on each system.

The upgrades to the 2012 Mac Pros made little difference in the amount of time necessary to build the project. The 2013 Mac Pro took 151 seconds to complete the task, finishing 43 percent faster than the upgraded 2012 12-core Mac Pro and 46 percent faster than the upgraded 2012 quad-core Mac Pro. The new Mac Pro was also faster than our CTO 2013 iMac, but only by a modest 16 percent.

Macworld Lab Test

Benchmarks: Final Cut Pro X Render



Results are times in seconds. Lower results are better. Macworld Lab testing conducted by James Galbraith and Albert Filice.

Macs: Current Lineup

PRODUCT	SPECS (STANDARD CONFIGURATION)	RATING	PRICE	DISPLAY	SPEEDMARK 9 ¹	MORE INFO
DESKTOP						
iMac 	Intel Core i5/2.7GHz (quad-core)		\$1299	21.5 inches	179	go.macworld.com/imac212713
	Intel Core i5/2.9GHz (quad-core)		\$1499	21.5 inches	189	go.macworld.com/imac212913
	Intel Core i5/3.2GHz (quad-core)		\$1799	27 inches	211	go.macworld.com/imac273213
	Intel Core i5/3.4GHz (quad-core)		\$1999	27 inches	235	go.macworld.com/imac273413
Mac Mini 	Intel Core i5/2.5GHz (dual-core)		\$599	Not included	n/a	go.macworld.com/mini2512
	Intel Core i7/2.3GHz (quad-core)		\$799	Not included	149	go.macworld.com/mini2312
Mac Pro 	Intel Xeon/3.7GHz (quad-core)	n/a ²	\$2999	Not included	n/a ²	go.macworld.com/macpro3713
	Intel Xeon/3.5GHz (six-core)	n/a ²	\$3999	Not included	n/a ²	go.macworld.com/macpro3513
PORTABLE						
MacBook Air 	Intel Core i5/1.3GHz, 128GB		\$999	11 inches	143	go.macworld.com/air1281113
	Intel Core i5/1.3GHz, 256GB		\$1199	11 inches	143	go.macworld.com/air2561113
	Intel Core i5/1.3GHz, 128GB		\$1099	13 inches	142	go.macworld.com/air1281313
	Intel Core i5/1.3GHz, 256GB		\$1299	13 inches	142	go.macworld.com/air2561313
MacBook Pro 	Intel Core i5/2.5GHz (dual-core)		\$1199	13 inches	n/a	go.macworld.com/macbook132512
	Intel Core i5/2.4GHz (dual-core), 128GB		\$1299	13-inch Retina	155	go.macworld.com/macbook1312813
	Intel Core i5/2.4GHz (dual-core), 256GB	n/a ²	\$1499	13-inch Retina	168	go.macworld.com/macbook1325613
	Intel Core i5/2.6GHz (dual-core)		\$1799	13-inch Retina	177	go.macworld.com/macbook132613
	Intel Core i7/2.0GHz (quad-core)		\$1999	15-inch Retina	n/a ²	go.macworld.com/macbook152013
	Intel Core i7/2.3GHz (quad-core)		\$2599	15-inch Retina	282	go.macworld.com/macbook152313

¹Speedmark 9 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.8 (Mountain Lion). For more information, see [http://www.macworld.com/2013/03/20/speedmark-9-benchmarking-tool/](#). ² Not yet tested.



The Next 30 Years of the Mac

BY DAN MOREN

The Mac's 30th anniversary has come and gone, and I can't help wondering how much longer the Mac will play a key role in our lives. Apple execs say it still has its place in the grand scheme of things. I'm not so sure.

Taking a Backseat

In the 1980s and 1990s, Apple's future was tied to the success of the Macintosh. When the Mac's fortunes dipped under the onslaught of Windows PCs, consumers feared for the company's survival. And the

device that ushered in Apple's late-'90s renaissance was the original iMac.

But increasingly, despite its recent record-setting sales, the Mac has taken a backseat to Apple's newer products: first the iPod, then the iPhone, and now the iPad. With these other lines contributing so much to Apple's overall revenue and sales, it sometimes seems as though the good old Macintosh is to Apple what bicycles became to Land Rover: a once-profitable sideline business that has reached technological and market maturity.

The iPhone and the iPad are more prominent and popular than the Mac was in its heyday. There are plenty of reasons why: Even now, iPads and iPhones are cheaper than most Macs. More significantly, our society has evolved to a point where computing has become ubiquitous—it no longer requires a traditional computer.

By now we've all heard Steve Jobs's sound bite comparing computers to trucks and smartphones and tablets to cars. It's not a case of one technology replacing another just because it's better, nor is it a matter of

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two complementary technologies coexisting. Rather, the question is whether a technology is good enough for most people. Smartphones and tablets are not ushering computers out of existence, but reducing them to specialized tools reserved for the people who need them. The Mac has already started down this road. Consider the new Mac Pro—a machine that even power users acknowledge may be too much.

I don't expect to go Mac-free anytime soon. As a writer, I'm still in a niche market: The iPad and iPhone can handle a lot, but they can't quite match the convenience and customizability of my MacBook Air. Then again, I'm a tech-savvy user whose Mac tweaks once prompted raised eyebrows from a couple of Apple Geniuses. Many other users, however, just need to read email and view webpages; they're only too happy to ditch a seven-year-old laptop to go iPad-exclusive. And that isn't a surprise: Most people don't want to change their own oil or replace



We're closer to the end of the Mac's life than we are to the beginning, especially considering Apple's propensity for innovating.

their own timing belt; they just want a car that will get them from point A to point B and not break down. The same is true for computers, no matter what form they take.

Long Live the Mac

I believe the Mac will persist for a good while longer, serving Mac enthusiasts and people (such as video editors and app developers) who require its capabilities.

The Mac has already persevered against long odds, given its survival over the past 30 years. Yes, it has changed operating systems, changed hardware platforms (twice), and gone through countless models. But at the most basic level, the Macintosh of 1984 is surprisingly recognizable in the Mac of today. In a field where

progress seems to happen with whiplash-inducing speed, that's no small feat.

Ten years from now, will we still be using Macs? I think so. But 20 or 30? Perhaps not; we're closer to the end of the Mac's life than we are to the beginning, especially considering Apple's propensity for innovating. And the way we interact with technology is changing rapidly.

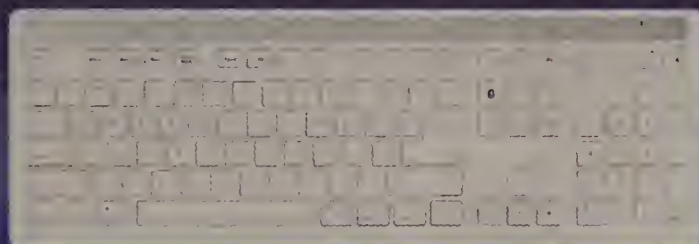
For now, Apple's success of recent years shows no signs of abating, and the Mac will surely be with us until it's no longer profitable. Despite any worry that the Mac's smaller, sleeker cousins have overshadowed it, consumer interest in the iPad and iPhone has helped the Mac, too.

So don't consign the Mac to the dustbin of history just yet.

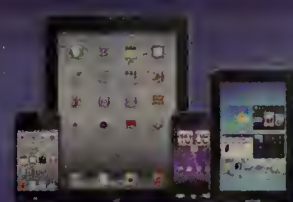


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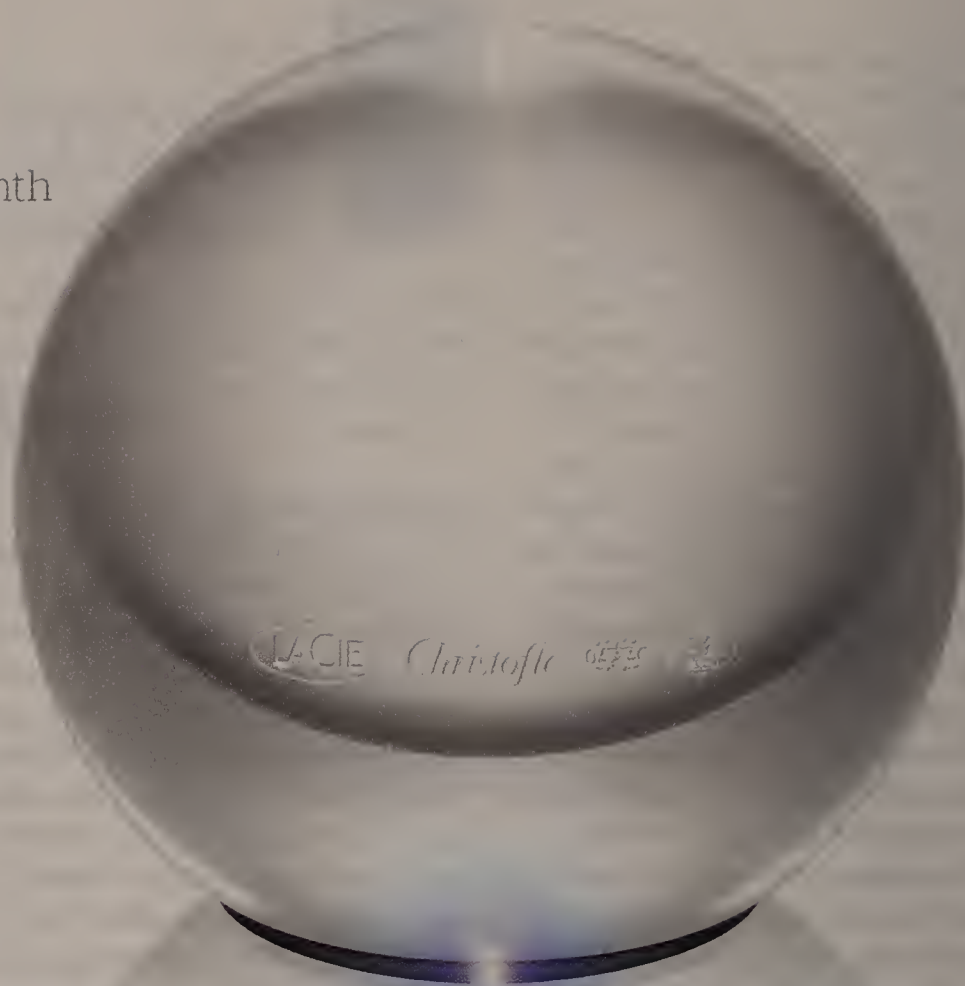
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Hot Stuff

What We're Raving About This Month

Christofle Sphère

The \$490 Christofle Sphère from LaCie was designed by the famous Parisian company Christofle, which is known for its luxury silver items. Handcrafted in France, this hard drive offers 1TB of storage and USB 3.0 connectivity—and because it gets power from USB, a power cable is not required (lacie.com).—ROMAN LOYOLA

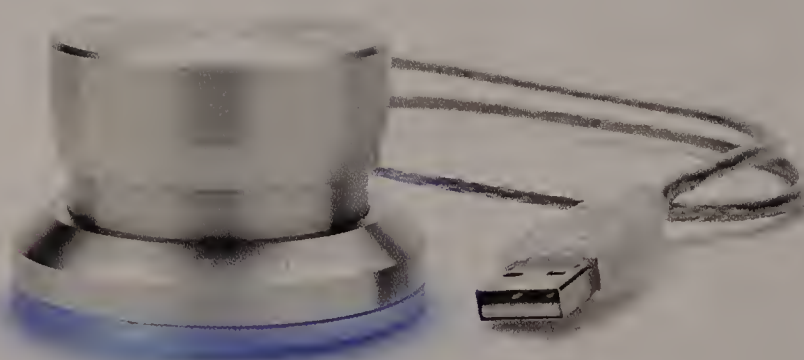


Mail Pilot 1.0.2

Mindsense's \$20 Mac email client takes a task-oriented approach to handling your mail. When you read a message, you can mark it as complete, or you can designate it as incomplete in case you need to send a reply or perform a related task. You can set reminders for tasks, set aside messages for later, sync with your iOS device, and more (www.mailpilot.co).—ROMAN LOYOLA

Collective 2.0

An inexpensive way to keep tabs on the contents of your clipboard, Generation Loss Interactive's \$2 Collective maintains a history of copied items that you can then paste on demand. The app supports custom global hotkey shortcuts and a large variety of data formats; it can even maintain a "blacklist" of apps you don't want it to interfere with (go.macworld.com/collective).—MARCO TABINI

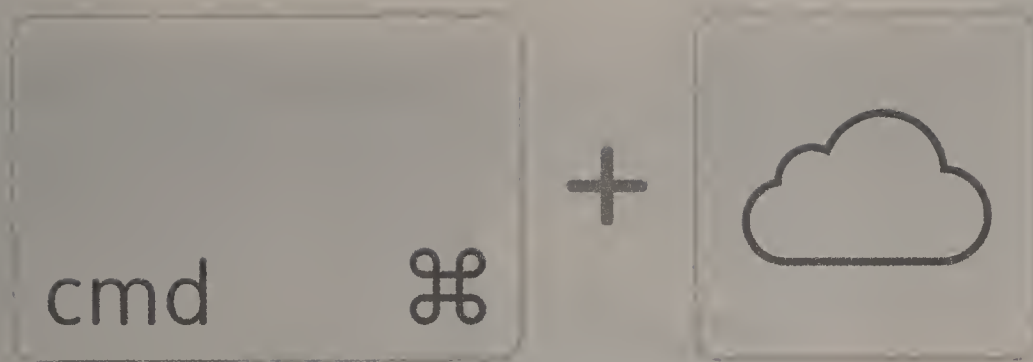


PowerMate Bluetooth Button

The \$60 PowerMate Bluetooth Button is an updated version of Griffin's popular PowerMate dial/button USB controller. You can configure it with custom commands for each Mac app. You can even use multiple controllers with your Mac, each one configured to work with a different app (griffintechnology.com).—JOEL MATHIS



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PHOTOGRAPHY

Focus 2

★★★★; \$12; MacPhun; macphun.com

A paid update to the original Focus app, MacPhun's Focus 2 allows you to add tilt-shift-like effects that direct the viewer's eye to the part of your photo that you want to emphasize. It works with 8- or 16-bit Raw and TIFF files, plus JPEG and PNG files.

Each of the five fine-tuned presets offers a predefined primary focus and a gradual-falloff focus, but both focus settings are adjustable. The Custom setting works the opposite way, as it applies a blur to your entire photo, and you then paint a mask over the areas where the blur shouldn't appear. I was especially impressed with how the app fixed a flawed macro shot.

I recommend cycling through the app's settings, regardless of your subject, to see which preset you prefer. For example, my low-contrast, wide-angle shot of a gang of

elk in Rocky Mountain National Park benefited nicely from the Vividness and Aperture settings of the Portrait preset, as well as the Landscape preset.

The Custom setting is a little confusing, as the Reset All command did not remove a mask I had applied. And each module has an Auto Enhancement option to correct problems with contrast, color, and brightness, but I found the effect extreme.

Even on older Macs, Focus 2's performance is excellent, and full-screen mode enhances the workflow quite well. You



can save and share your image to Facebook, Twitter, or Flickr, or email it easily.

Focus 2 is a great tool for adding bokeh (depth of field), tilt-shift, or vignette effects, as well as for enhancing macro images and portraits.—JACKIE DOVE

UTILITY

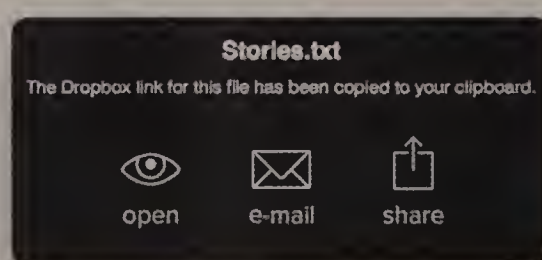
Dragshare for Dropbox 1.1.1

★★★★; \$2; Rick Waalders; dragshare.co

One great feature of Dropbox is how easy it makes sharing files—even with people who don't use Dropbox. Dragshare for Dropbox simplifies the process even more.

Installing Dragshare adds a systemwide menu. Link the software with your Dropbox account, and you then can share files by dragging them—a single file, a group of files, or a folder—to that menu's icon. When you do, Dragshare copies the data to its folder inside your Dropbox folder (if you drag multiple files or a folder, Dragshare first creates a zip archive).

It then presents a pop-over sheet, from which you can choose to open the item on the Dropbox website in your browser,



to email a short Dropbox sharing link using your default mail client, or to share the link on Facebook or Twitter. You can bring up this sharing sheet at any time by choosing an item from Dragshare's menu; the menu lists recently shared files.

Dragshare's automated sharing email message, prepopulated with the link and an appropriate subject, is a timesaver,

and its built-in social media posting is a nice plus. And whereas Dropbox's menu shows only the three most recent items added to or changed in your Dropbox folder, Dragshare displays the six most recent, and shows only those you've chosen to share. Finally, having a Dragshare folder inside the Dropbox folder makes it easy to find shared stuff later.

On the negative side, Dragshare duplicates shared files instead of moving them, and the archives created by the app have gibberish names. Nevertheless, for anyone who regularly shares files via Dropbox, Dragshare is a handy addition to the menu bar.—JONATHAN SEFF

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UTILITY

WiFi Explorer 1.5.5

💻💻💻; \$3; Adrian Granados; go.macworld.com/wifiexp

With WiFi Explorer, you can gather an impressive complement of data about the Wi-Fi networks within range of your Mac. It supports 802.11a/b/g/n networks in both the 2.4GHz and 5GHz frequency spectrums, plus 802.11ac networks on the 5GHz band.

In the Network Details tab, network administrators and tech-savvy users can find information such as the selected network's SSID (the network name), BSSID (the hardware MAC address of the device), supported data rates, hardware vendor, signal quality, and signal-to-noise ratio.

The Signal Strength tab presents a live-updated graph of a network's signal strength. You can consult this graph to optimize the coverage of your own Wi-Fi network: As you roam around your home or office, laptop in hand, you can watch the

graph to find "dead spots."

You can then move your Wi-Fi access point for the best coverage.

The 2.4 GHz Channels and 5 GHz Channels tabs let you view nearby networks. You'll likely find more on the 2.4GHz band than on the 5GHz band.

WiFi Explorer cannot detect hidden wireless networks. According to the developer, that is because CoreWLAN, Apple's framework for Wi-Fi scanning, does not provide information on hidden wireless networks. WiFi Explorer does, however, reveal statistics about any hidden network to



which your Mac is currently connected.

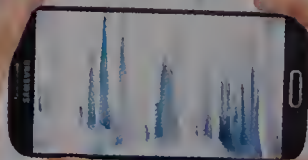
WiFi Explorer is a fun, useful addition to any Mac tinkerer's toolbox. It's packed with features for optimizing your networks, and it represents a great value.—STEVE SCIPIONI

INVISIBLE
SHIELD

GLASS

The Clear Choice

You'll forget it's even there.



ADVANCED
CLARITY



ULTRA-SMOOTH
SURFACE



EASY
INSTALLATION



LIFETIME
WARRANTY

GET PROTECTED. GET GLASS. VISIT WWW.ZAGG.COM

BOOKS

Vellum 1.0

★★★★; free (exports start at \$50); 180g; 180g.co/vellum

Since the early days of ebooks, people have been trying to find better ways to make .epub and .mobi books from Word manuscripts. Vellum does just that.

The app provides beautifully rendered customization settings for a book's style, headings, opening paragraph of a chapter, blockquotes, ornamental breaks, and paragraph following a break; but you're limited to the styles it offers.

One reason for that is the excellent cross-platform preview and export engine, which lets you make ebooks for iOS, Kindle, and Nook with one click. The app even offers live previews for every major e-reading device. To do so, Vellum needs HTML/CSS-compliant code for each platform, and the easiest way to ensure it is to eliminate user input. This is also likely

why you can't embed images or video.

What it lacks in customization, however, Vellum more than makes up for in ease of use and style. If I wanted to self-publish a novel and had no major HTML or CSS experience, I would absolutely use Vellum.

The app itself is free, as is preparing ebooks. You pay \$50 to export one book, or a reduced fee for multiple books. The

export license is tied to a particular book file, so you can export as many versions of a single prepared book as you like. (The title, subtitle, and author are locked after the first export, so you'd better get them right the first time.) Whether Vellum's export price is worth the investment depends on how much you value ease of use and the look of your work.

The developer hopes to persuade writers and book producers to use Vellum by removing complications. On behalf of ebook readers everywhere, I hope the company succeeds.—SERENITY CALDWELL



Interested in great Mac apps? Check out the Mac Gems session at Macworld/iWorld in San Francisco, March 27–29. Visit www.macworldiworld.com for more information.



Candy for your Apple



Air Mouse® Elite

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iWorld
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Blu-Link™ NFC
Speaker System 80

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SMK-Link Electronics, Inc. | Gyraton

smklink.com gyration.com

iOS Central

The Latest on the iPhone, iPod Touch, iPad, and App Store



A Many-Splendored Device Equipped with just the right iOS app, you can easily jot down reminders, read comics, or get the lowdown on the weather.

ized workflows to automate functions like converting text. While workflow support may be its standout feature, Editorial also offers niceties such as Markdown and HTML previews, powerful search features, and an integrated Web browser.

Take notes: The compact iPad is perfect for scribbling notes, and **Notability** (\$3; Ginger Labs, go.macworld.com/notability) perpetually ranks among the top-selling iPad productivity apps. It lets you type or write notes, giving you options for changing color and style. A nifty recording feature lets you capture audio for a meeting or lecture; when you play back that audio, tapping a section of your notes takes you to that part of the recording. Notability offers great search tools, and you'll never lose an important file, as it syncs with cloud-based services like Dropbox and Google Drive.

Read comics: Since its launch, the iPad has been an appealing device for people who enjoy comic books. Recent hardware changes have only improved matters. Artwork really pops on the iPad Air's screen, and the lightweight tablet truly lends itself to extended reading sessions. On the iPad mini with Retina display, you get crisper text and sharper art. So what comic reader should you choose? **Comics** (free; ComiXology, go.macworld.com/comics) provides a

Find an App for Any Task on Your iOS Device

When it comes to apps for your iPhone or iPad, we have you covered.

BY PHILIP MICHAELS

Whether you're the proud owner of an iPad Air, iPad mini, or iPhone, great apps abound for your iOS device. Here are some of our top picks.

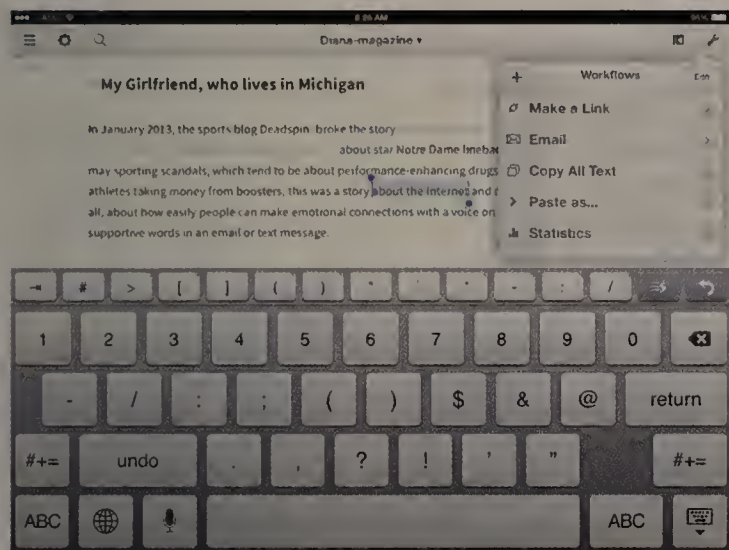
Part I: iPad Air and iPad Mini

I've surveyed my colleagues for their favorite iPad apps, and picked the ones that are best for certain tasks. Whether you see your iPad as a productivity tool, a gaming device, or a family resource, we've selected the right app for you.

Write: The iPad can be a powerful productivity tool, especially when loaded

with the right apps. Power users who work with text can turn to **Editorial** (\$5; OMZ Software, go.macworld.com/omzeditorial), which won an Editors' Choice Award in February. Its customization features let you bend the interface and the extended keyboard to your will. The app also makes it simple for even nonprogrammers to assemble custom-

Whether you see your iPad as a productivity tool, a gaming device, or a shared family resource, we've selected the right app for you.



smooth interface and an easy-to-navigate storefront for purchasing issues.

Entertain small kids: If you're a parent, that iPad Air or iPad mini won't remain your sole property for long, so you might as well make sure it has a few apps your kids can enjoy. As the parent of a preschooler, I can't say enough nice things about Toca Boca's apps. They're like digital playsets, fostering your children's imagination. Almost all of Toca Boca's offerings would be fine additions to your iPad, but I'll single out **Toca Hair Salon 2** (\$3; Toca Boca, go.macworld.com/tocahair), in which you use an array of scissors, curling irons, and other beauty-parlor tools to give assorted cartoon characters unique coiffures. If you're having a bad hair day yourself, **Toca Hair Salon Me** (\$3; go.macworld.com/tocame) lets you snap a photo with the iPad's camera and then start styling.

Engage big kids: Children in the upper grades of elementary school may have outgrown Toca Boca, but they'll enjoy the colorful **Barefoot World Atlas** (\$5; Touch Press, go.macworld.com/barefootatlas). This digital version of the book of the same name takes full advantage of your iPad's touch interface, with a spinnable, interactive globe. Tap any country or any animated point of interest to learn more about it. Up-to-the-minute information includes the country's current temperature and how far away it is. Not many apps put the whole world in your hands; Barefoot World Atlas does so with a distinctive, pleasing look.

See the stars: If you often gaze up at the night sky and wonder what's blinking

Copy That The customizable Editorial puts a number of powerful text-editing tools right at your fingertips.

back at you—star, planet, or satellite?—equip yourself with **Star Walk HD** (\$3; Vito Technology, go.macworld.com/starwalk), a beautifully designed astronomy app. Star Walk takes advantage of your iPad's accelerometer and location aware-

ness to help you identify the heavenly bodies immediately above you. Just tilt your iPad to the heavens, and Star Walk displays planets, stars, and constellations based on their orientation relative to you.

Learn about endangered animals: There's a reason **WWF Together** (free; World Wildlife Fund, go.macworld.com/wwftogether) gets showered with awards. This beautifully designed interactive app contains a wealth of information assembled by the World Wildlife Fund. You'll find detailed stories of 16 endangered species, with interactive elements (drag around a dot to see how cowbirds follow bison, for example). A spinning globe lets you locate and learn about endangered species around the world.



Fix a Bad Hair Day Toca Hair Salon Me allows you to put your face on the chopping block for some wild hairstyling.

Cook a meal: Turn to **How to Cook Everything** (\$10; Culinate, go.macworld.com/cookeverything)—a digitized version of Mark Bittman's reference book for home chefs—for expert instruction on the fundamentals of cooking, with illustrations that really pop on your iPad's screen. It's easy to jump from recipes to techniques to kitchen basics. Ingredients tabs show you recipe variations, explain how to use relevant kitchen tools, and offer a window for your own notations. Other features, such as the ability to print recipes so you won't have to touch your new iPad with sticky hands, make this a must-have for home cooks with four-star dreams.

Play a game: Sometimes you just want to have fun. For a diversion that stimulates the ol' brain, try **The Room Two** (\$3; Fireproof Games, go.macworld.com/roomtwo), a sequel to last year's well-regarded puzzle game. This version has the same spooky ambience, along with puzzles that use pinching, zooming, and other touch gestures to great effect. It offers hours of mysteries to unravel.

Drive really fast: The iPad's built-in accelerometer makes it a great platform for racing games—just tilt your tablet to steer, and you can make like Mario Andretti. The *Real Racing* franchise has been in the winner's circle for much of its time on the iOS platform, and **Real Racing 3** (free; Electronic Arts, go.macworld.com/realracing3) delivers racing thrills to your iPad. The game's payment model—it's free to download, but you have to make micropayments to speed up your progress—is not without its critics, and that's a shame because the gameplay is terrific. My advice: Download the free version and give it a spin. If you find the requests for payments intrusive, you can still grab *Real Racing 2 HD* for \$7.

Part II: iPhone Apps

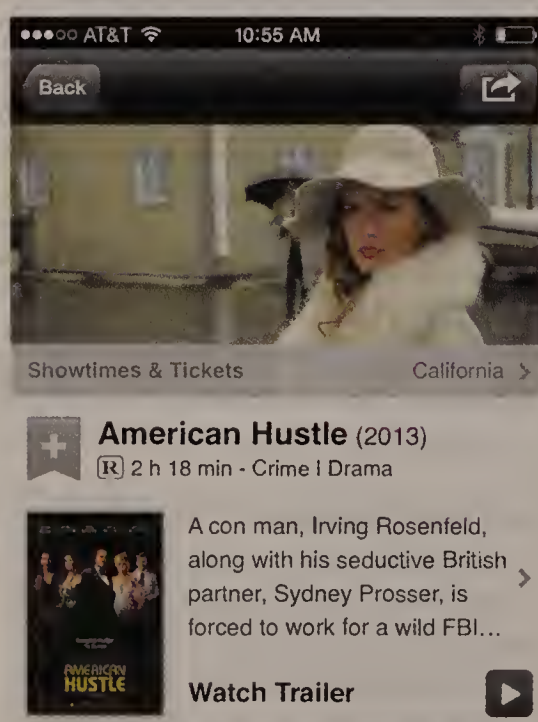
The following nine recommendations cover a broad spectrum of the things you can do with your iPhone.

Protect your passwords: Though password security may not set your heart racing, one of your very first iPhone downloads should be **1Password** (\$18; AgileBits, go.macworld.com/1password).

Yes, this \$18 Editors' Choice Award winner has to compete in a world of 99-cent downloads. But it creates strong, unique passwords that keep the bad guys out of your business. All you have to remember is a single master password. You can secure website logins, banking information, credit cards, and notes. The app syncs data across iOS devices; spring for the desktop version (\$40), and you can keep data synced there, too.

Watch movies: I enjoy watching old movies; what I enjoy even more is watching them while I descend into a second-screen wormhole to look up which actors appeared in what other films. The mobile version of **IMDb Movies & TV** (free; IMDb, go.macworld.com/imdbmtv) puts the movie reference site's extensive database in the palm of my hand. Mobile users will also appreciate the ability to look up movie showtimes.

Keep active: Your iPhone can track your every movement, as long as you augment its location-tracking ability with an app such as **Moves** (\$3; ProtoGeo, go.macworld.com/moves). The app tracks your steps and distance traveled, tapping into your iPhone's location and directional sensors to determine when you're sitting, walking, running, biking, or traveling in some other way. It also provides a map of



Big Screen, Small Screen IMDb's mobile app has a new look for iOS 7 but offers the same great data about movies and TV shows.

where you've been, how long you were there, and what you were doing, making it not only a useful fitness tracker but also a log of your commute and daily activities. All of that monitoring can drain battery life, but the latest version of Moves offers iOS 7 users a battery-saving mode.

Look things up: While you could call **Terminology 3** (\$3; Agile Tortoise, go.macworld.com/terminology3) a dictionary app, that undersells what it can do. Yes, you can look up words and get definitions, along with synonyms, related terms, and other details. But you can also use custom actions to extend your searches to other resources—Wikipedia, say—or to other apps that offer integration with Terminology. It's a reference tool for novices as well as power users.

Check the weather: If you want your forecasts in a more detailed and pleasing format than iOS 7's Weather app offers, try **Weather Line** (\$3; Off Coast, go.macworld.com/weatherline), which gives temperature, conditions, and precipitation data in 36-hour, 7-day, and 12-month time frames. It shows temperature data in graph form and throws in a severe-weather warning feature, plus details such as humidity, wind, and "feels like" temperature.

Take pictures: Want an alternative to Instagram for editing and sharing photos? **VSCO Cam** (free; Visual Supply Company, go.macworld.com/vscocam) offers its own take on photo filters, or "presets." The free mobile image editor comes with ten presets, which you can augment by purchasing more through an in-app store. Apply a preset, make adjustments, and compare your edit to the original with a helpful before-and-after view. Tools for adjusting an image's temperature, contrast, exposure, and rotation are similarly easy to apply. The app displays your photos in a lovely grid view, and provides built-in links to a number of social media sites, including Instagram.

Grab a bite to eat: It's easy to find nearby restaurants with an iPhone. Finding those that cook up something you want to eat is another matter. **LocalEats** (\$1; Magellan Press, go.macworld.com/localeats) offers curated search results, with a Nearby Search button on its launch



Go Fish Lure fish to the surface in **Ridiculous Fishing**, and then start blasting away at them to earn the big bucks.

screen that finds top-rated places within a close radius; you can filter the results or jump directly to Maps for directions. A directory of states and cities makes **LocalEats** a good download for road warriors.

Save the date: The **Fantastical 2** calendaring utility (\$3; Flexibits go.macworld.com/fantastical2) is miles ahead of Apple's Calendar. A five-day view with a scrolling list of upcoming events lets you see your schedule at a glance. Natural-language support means you can speak to create a calendar event or reminder. Include a location with your event, and Fantastical 2 adds a map.

Blow off steam: Looking for a game you can play when you have a spare moment riding the subway? **Ridiculous Fishing** (\$3; Vlambeer, go.macworld.com/ridiculousfishing) fits the bill. First reel in as many mystical deep-sea creatures as possible, and then blast them all to kingdom come with whatever weapon you have on hand. With each fish you knock out, you earn money to expand your arsenal. It's a fun diversion—though maybe not from a fish's perspective.

Want to get more out of your iPhone or iPad? Check out our iOS 7 Tips session at Macworld/iWorld 2014 in San Francisco, March 27–29 (www.macworldiworld.com).

China Mobile Signs iPhone Deal

BY JOHN RIBEIRO

Apple is now offering the iPhone to more than 760 million China Mobile customers, which could help it move up from fifth position in this growing market.

The company already sells its phones through China Telecom and China Unicom, but a deal with China Mobile, the largest carrier in the country, had eluded it. One reason is that China Mobile uses a different wireless telecommunications standard from its competitors. As part of the agreement, China Mobile and Apple retail stores in China made the iPhone 5s and iPhone 5c available starting January 17.






















Apple's share of the Chinese smartphone market reached 8 percent in the third quarter of 2013, according to



research firm Canalys. Samsung Electronics was the largest player with a market share of 21 percent, followed by Lenovo with 13 percent, local company Yulong Computer Telecommunication with 11 percent, and then Huawei with a 9 percent share.

China issued 4G licenses in December 2013 to three local carriers, including China Telecom, which has been deploying base stations across the country using the TD-LTE (Time Division Long-Term Evolution) 4G technology. Apple had been unwilling to support China Telecom's 3G TD-SCDMA (Time Division Synchronous Code Division Multiple Access), but the company recently announced that the iPhones would run on both 4G TD-LTE and 3G TD-SCDMA.

iOS Devices: Current Lineup

PRODUCT	SPECS	RATING	PRICE ¹	DISPLAY	MORE INFO
 iPad Air ²	16GB	Wi-Fi, 	Wi-Fi: \$499; Wi-Fi and cellular: \$629	9.7-inch color (Retina)	go.macworld.com/ipadair
	32GB	Wi-Fi, 	Wi-Fi: \$599; Wi-Fi and cellular: \$729	9.7-inch color (Retina)	go.macworld.com/ipadair
	64GB	Wi-Fi, 	Wi-Fi: \$699; Wi-Fi and cellular: \$829	9.7-inch color (Retina)	go.macworld.com/ipadair
	128GB	Wi-Fi, 	Wi-Fi: \$799; Wi-Fi and cellular: \$929	9.7-inch color (Retina)	go.macworld.com/ipadair
	16GB (iPad 2)		Wi-Fi: \$399; Wi-Fi and cellular: \$529	9.7-inch color	go.macworld.com/ipad2
 iPad Mini	16GB	Wi-Fi, 	Wi-Fi: \$329; Wi-Fi and cellular: \$459	7.9-inch color	go.macworld.com/minirev
	32GB	Wi-Fi, 	Wi-Fi: \$429; Wi-Fi and cellular: \$559	7.9-inch color	go.macworld.com/minirev
	64GB	Wi-Fi, 	Wi-Fi: \$529; Wi-Fi and cellular: \$659	7.9-inch color	go.macworld.com/minirev
 iPhone 4s, 5c, and 5s	8GB 4s ³		Free	3.5-inch color (Retina)	go.macworld.com/iphone4s
	16GB 5c ⁴		\$99	4-inch color (Retina)	go.macworld.com/iphone5c
	32GB 5c ⁴		\$199	4-inch color (Retina)	go.macworld.com/iphone5c
	16GB 5s ⁴		\$199	4-inch color (Retina)	go.macworld.com/iphone5s
	32GB 5s ⁴		\$299	4-inch color (Retina)	go.macworld.com/iphone5s
	64GB 5s ⁴		\$399	4-inch color (Retina)	go.macworld.com/iphone5s
 iPod Touch	16GB		\$229	4-inch color (Retina)	go.macworld.com/touch516
	32GB		\$299	4-inch color (Retina)	go.macworld.com/touch5
	64GB		\$399	4-inch color (Retina)	go.macworld.com/touch5

¹All prices are Apple's prices. ²Separate Wi-Fi-and-cellular iPad models are available for AT&T's network and for Verizon's. ³This phone is available only with an AT&T plan. ⁴These models are available with an AT&T, Sprint, or Verizon plan.

Nokia Pulls Its Map App

BY PHILIP MICHAELS

The road to cross-platform compatibility for Nokia's mobile mapping app didn't turn out to be as smooth as the company had hoped.

At the end of last year, Nokia pulled Here Maps from Apple's iOS App Store. The culprit? Nokia is blaming iOS 7. Specifically, "recent changes to iOS 7 harm the user experience," Nokia claimed in a statement supplied to news sites.

iOS users who downloaded Here Maps when it arrived on the App Store more than a year ago may beg to differ. Nokia has paid scant attention to the app since its debut, and it has garnered tepid App Store reviews. With Apple telling app developers to make their submissions compatible with iOS 7 by February 1, 2014, Nokia likely decided to pull the plug on an app it never showed much interest in.

That's a far cry from the fanfare of Nokia's November 2012 announcement that it was expanding its mapping services beyond its own line of smartphones with an iOS version and an Android development kit. "We want to give everyone with any type of device the ability to use this, the best location platform in the industry," said Stephen Elop, then-CEO of Nokia, at a San Francisco press event. Now, Nokia's Here site directs users who aren't on a Windows Phone to access Here Maps via a mobile browser.

The news has hardly triggered a wave of "Whither iOS?" soul searching. Even if you don't believe that Apple's own Maps app has improved much since its disastrous 2012 rollout, there's still the iOS version of Google's mapping program, not to mention apps from Navigon, TomTom, and ALK Technologies.

App Store Sales Top \$10 Billion in 2013, \$1 Billion in December Alone

BY MARCO TABINI

Apple announced in early January that App Store sales topped \$10 billion in 2013, with record-breaking revenues of over a billion in December alone.

According to an Apple press release, this pushes the total amount it has disbursed to developers to more than \$15 billion. The App Store has generated nearly \$21.5 billion in revenues for the tech giant since its 2008 inception.

App Store revenues have been accelerating almost constantly: It took nearly two years to generate the first \$3.6 billion in gross revenues—a sum that the company matched, on average, in a little over four months last year.

The App Store has also reached impressive milestones in app availability and downloads. In October 2013, Apple



revealed that its online software marketplace had reached more than a million apps—a number that, according to the January announcement, includes more than 500,000 iPad-compatible titles. As for the App Store's download totals, Apple pegged that figure at more than 60 billion in the third quarter of 2013.

As the numbers show, this is a marketplace that's continuing to expand in size and economic value, to the benefit of users and developers alike.

LaCie Fuel Packs 1TB of Storage

BY AGAM SHAH

Apple iPhone and iPad users can easily add 1TB of external storage space to their devices by introducing LaCie's \$199 Fuel wireless hard drive.

The Fuel allows users to preserve mobile storage by moving large files onto the drive. They can access those files from the Fuel while on the go and upload

or download them remotely, effectively creating a personal data cloud.

The battery can provide a 10-hour run time on a single charge. In addition, the Fuel can act as an access point for an existing Wi-Fi network, or as a router for a wireless network. Users can stream movies from the AirPlay-compatible Fuel to TVs hooked to an Apple TV box, and then mirror that content on other iOS devices.

With a USB 3.0 port, the Fuel can also function as an external hard drive for Macintosh computers. Users can sync files between Macs and the drive by way of Dropbox.

LaCie will also offer the Little Big Disk Thunderbolt 2, which it calls the "world's fastest portable storage" product, in the first quarter of 2014.



What's New at the App Store



Directr

This free iPhone app (go.macworld.com/directr)

guides users through creating professional-looking videos. The latest update includes a new video trimmer that can time cuts to accompanying music. It also balances and mixes the audio, and it has an improved preview and a revamped interface. When you are done editing, the video posts to YouTube.—JOEL MATHIS



Jelly

Best described as a cross between Pinterest and

Quora, Jelly (free, go.macworld.com/jelly) lets users shoot and post photos that they then use to ask other Jelly users questions about the items depicted. You can forward questions outside the app to non-Jelly users, and Jelly works in conjunction with other social networks, such as Facebook and Twitter.—JOEL MATHIS



Google Play Music

Although the mobile radio battle has focused on

offerings from Apple, Pandora, and Spotify, the free Google Play Music (go.macworld.com/gpmusic) is lurking at the edges. The update to this iPhone-based service refreshes the app's look for iOS 7, while adding support for the new "I'm Feeling Lucky" radio and genre radio stations to the "All Access" feature.—JOEL MATHIS



Sky Guide

The relaunched \$2 Sky Guide app (go.macworld.com/skyguide)

has a host of nifty new features, such as a time-lapse offering that lets you watch satellites streak through the sky at 1000 times their real speed; 64-bit support; double the number of articles about, and photos of, celestial bodies; and an improved search function.—JOEL MATHIS

If You Bought Computers, Printers, Video Game Consoles,

or Other Devices
with Memory

Get Money from
\$310 million
Settlement

Simple Online
Claim Form
Takes
3-5 Minutes

State Attorneys General
are Participating

There are class action Settlements involving DRAM, a memory part that is sold by itself or as part of electronic devices such as computers, printers, and video game consoles.

The lawsuits claim that the Defendants fixed the price of DRAM causing individuals and businesses to pay more for DRAM and DRAM-containing devices. The Defendants deny that they did anything wrong.

Who is included in the Settlements?

Individuals and businesses that:

- Purchased DRAM or a device containing DRAM anywhere in the U.S. between 1998 and 2002,
- For their own use or for resale.

Purchases made directly from a DRAM manufacturer are not included (see the list of manufacturers at www.DRAMclaims.com or by calling 1-800-589-1425).

What do the Settlements provide?

The combined Settlements total \$310 million. The amount of money you will receive depends on the type and quantity of electronic devices you purchased and the total number of claims made.

Eligible individuals and businesses are expected to get a minimum \$10 payment and perhaps much more. Large purchasers could recover many thousands of dollars.

How can I get a payment?

Claim online or by mail by **August 1, 2014**. The simple online Claim Form only takes 3-5 minutes for most individuals.

What are my rights?

Even if you do nothing you will be bound by the Court's decisions. If you want to keep your right to sue the Defendants yourself, you must exclude yourself from the Settlement Class by **May 5, 2014**. If you stay in the Settlement Class, you may object to the Settlements by **May 5, 2014**.

The Court will hold a hearing on **June 25, 2014 at 9:00 a.m.** to consider whether to approve the Settlements and a request for attorneys' fees up to 25% of the Settlement Fund, plus reimbursement of costs and expenses. You or your own lawyer may appear and speak at the hearing at your own expense.

For More Information:

1-800-589-1425 www.DRAMclaims.com

Text: "DRAM" to 96000

(You may receive notifications via text. Message & Data rates may apply.)

App Guide

Software for Your iPhone, iPod Touch, and iPad

Angry Birds Go!

GAMES Offering a familiar character, a basic go-cart, and a fun course with polished visuals, *Angry Birds Go!* (go.macworld.com/angrybirdsgo) starts off strong. The racetracks are fun, particularly the ones that involve great leaps and flying, and various types of races spice up the game. One involves collecting fruit by driving into it, while another requires you to maneuver around ice, rock, and wood obstacles before the timer runs out and a bomb explodes.

Unfortunately, the game quickly gets bogged down by in-game purchases. To unlock different tracks and characters, you must first pass all the levels of your current racing course, which requires cart upgrades that cost gold coins. You earn these coins by completing challenges and then repeating races over and over again, unless you pay for them or for the upgraded go-carts. Purchases range from a few dollars to a whopping \$50 for the fanciest cart, and the game becomes repetitive unless you pony up for additional coins, diamonds, and upgrades. Despite a promising start, *Angry Birds Go!* is ultimately a free-to-play but pay-to-win game.—YISHIAN YAO

iPhone/iPad | ; free; Rovio



Heyday

PRODUCTIVITY Have you ever ended up at an event that you'd have liked to document, but felt it wasn't the right moment to fiddle with your iPhone? You might find *Heyday* by Hey (go.macworld.com/heyday) just the thing for those moments. It's a free photo- and video-journaling tool for your iPhone or iPod touch.

After you grant the app access to your photos and location data, and create an account linked to Facebook or an email address, Heyday builds a timeline, organizing your existing photos and videos by day, time, and location. The app groups your photos into

a collage; you can add, remove, and rearrange photos, select different collage layouts, add comments, and share your work on social media. Heyday continuously analyzes your location data and adds moments to your timeline. This is a great tool for tracking events and for organizing and sharing photos.—BRIAN BEAM

iPhone | ; free; Hey

Vesper

PRODUCTIVITY The App Store is chock-full of note-taking apps, all vying for attention with different features. *Vesper* by Q Branch (go.macworld.com/vesper) separates itself from the pack with its simplicity and flexibility. Vesper lets you insert a photo into notes, tag notes to keep them organized, archive and delete notes, share them via email or SMS, and copy them for pasting into other apps. Vesper's lack of iCloud or Dropbox syncing is a shortcoming, but its streamlined elegance offers a model for app development.

—BRIAN BEAM

iPhone | ; \$5; Q Branch

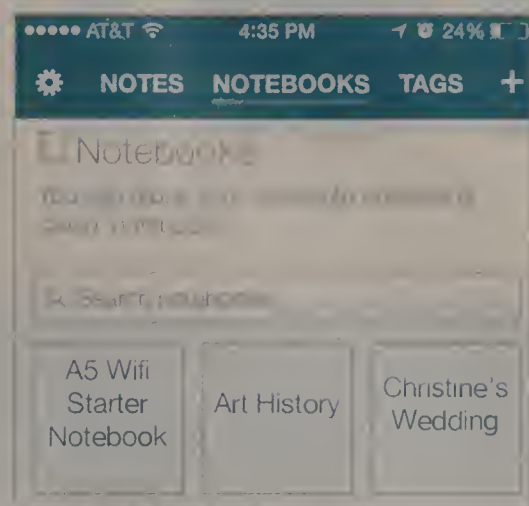


Jool

GAMES Rostlaub's *Jool* (go.macworld.com/jool) may not have a clearly defined objective for the player, but it's addictive. You play as a bird, running and jumping from left to right and from platform to platform, collecting gold triangular Trips and other items with point values. You can also collect power-ups, including the unique Flip: if you miss a platform and fall, just flip your iOS device 180 degrees (you come back to life as your bird's evil alter ego).

Jool's graphics are cartoony and even cute, but the death scenes are graphic and violent, which has earned it a rating of 12 and up. *Jool* may not be a complicated game, but it is quirky and fun.—ROMAN LOYOLA


iPhone/iPad | ; free; Rostlaub



SwiftKey Note

PRODUCTIVITY In its first foray into the iOS ring, SwiftKey combines its smart keyboard with the popular Evernote integrated notebook platform—cleverly introducing its top-selling predictive keyboard to iOS users. When you launch SwiftKey Note (go.macworld.com/swiftkeynote) for iPad and iPhone, it asks you to link Note to your Evernote account. You then see a blank text box with a keyboard underneath that looks nearly identical to Apple's own. Start typing, and SwiftKey suggests the word or phrase it thinks you want to say next, displaying up to three predictions in a word bank; tap one to select it. If you misspell a word, SwiftKey likewise offers suggestions, and you tap the one you want. When you spell a word that SwiftKey doesn't know, the word pops up in the bank—tap to add it to your dictionary.

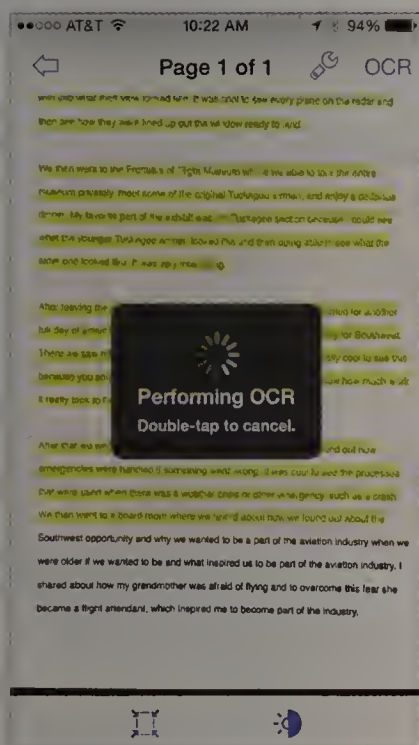
You can add a note to an existing notebook, as well as type notes within Note and save them straight to Evernote; new notes sync to your Evernote account. You can also export notes via Message or Mail, or copy them for pasting elsewhere. Note's landing page has three columns for notes, notebooks, and tags, allowing you to easily find past projects. SwiftKey's prediction feature is smoother and smarter than the autocorrect in Apple's native iOS keyboard. And if you're an Evernote user, you'll appreciate Note's integration with your existing notebooks. But Note's bare-bones style won't appeal to everyone: Its focus is on typing, not note organization.—LEAH YAMSHON

iPhone/iPad/iPod touch | ; free; SwiftKey

PDFpen Scan+

PRODUCTIVITY PDFpen Scan+ (go.macworld.com/pdfpenscan) is a document-scanning and optical character recognition tool for iOS. PDFpen Scan+ offers three ways of capturing images. You can use your iOS device's built-in camera to take a picture of a document, import a PDF or image file from your photo library, or import an image from a WebDAV-enabled file server or from a service such as Box, Dropbox, or Evernote.

PDFpen Scan+ attempts to detect the document's edges and crop it, but the app's edge-detecting capabilities are inaccurate. Although you can adjust the selection area by dragging one of the four corners, the selection tool is challenging to work with:



The app gives you no obvious way to create a perfectly rectangular or square selection that isn't the full size of the scanned document, and some text often appears below a toolbar at the bottom of the screen, making it difficult to know whether the selection tool has completely surrounded the text.

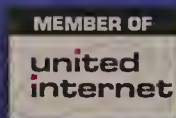
PDFpen Scan+ saves the file in its own image library or in iCloud. You then tap a button to perform OCR on a single page or the entire document. The OCR engine is excellent and superfast on the iPhone 5s, and the app supports 18 different languages. You can save your scanned text to the previously mentioned services or to Smile Software's other PDFpen products, as well as email it. As is the case with all OCR products, the OCR engine records the end of every line as a new paragraph; you'll have to fix that in your editing tool.—JEFFERY BATTERSBY

iPhone/iPad/iPod touch | ; \$5; SmileOnMyMac

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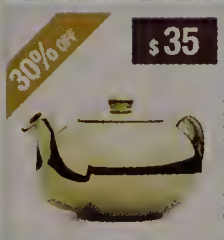
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Julia Hernandez
Diagnosed at 16.
In remission.

Samuel L. Jackson
Stand Up To Cancer and
St. Baldrick's Ambassador



**St. Baldrick's
FOUNDATION**
Conquer Childhood Cancer



**STAND
UP TO
CANCER**

THE MACWORLD GUIDE TO

iPhone PHOTOGRAPHY



GET GREAT SHOTS
FROM THE CAMERA
THAT'S ALWAYS
WITH YOU.



BY LAUREN CRABBE

PHOTOGRAPHY BY PETER BELANGER

10 RULES

FOR *iPHONE PHOTOGRAPHY*



The big challenge when you shoot images with an iPhone is to successfully capture great-looking photos from a gadget that's primarily designed for chatting. If you keep these tips in mind as you shoot, however, you can take some pretty sharp pictures.

1 GET A HEAD START

It's a good idea to get in the habit of accessing the camera from the lock screen on your iPhone. Press the *Home* button to wake up the screen, and slide the camera icon to the top of your display. This way, you can take a shot

without having to enter your passcode or using Touch ID.

Another way to ensure that you're always ready to take a shot is to stick the Camera app on your first home screen, or even in the Dock at the bottom of the screen.

In iOS 7, you can also quickly access the camera in

the Control Center. Just swipe up from the bottom of the screen to see your Control

Center. The Camera app is in the bottom right corner.

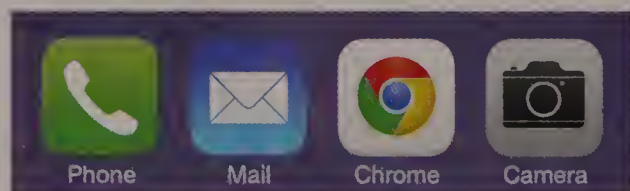
2 COMPOSE YOUR PHOTOGRAPH WITH CARE

Capturing a good photo isn't just a matter of knowing the right settings. Compose your photos as the pros do. Use the iPhone's Grid feature to divide the frame into horizontal thirds, and put your subject on one of those lines, rather than in the middle of the screen. (For more about using a grid to compose your shots, see page 41.)

Be careful to keep the camera level, too; nothing ruins a photo like a tilted horizon. Also, keep an eye on the background to make sure that you don't see anything "growing" out of the top of someone's head.

3 KEEP YOUR iPHONE STEADY

One reason you may tend to get blurry photos with your iPhone is that it's light and thin, and hence rather awkward to hold compared to a full-size camera. Hold the phone as still as you can,



In the Dock Keep the Camera app at the ready by putting it in the Dock at the bottom of your home screen.

using both hands, and keep your elbows tucked into your sides for support. Take a deep breath and let out a slow, steady exhale as you gently tap the shutter release button. You can also use the Volume Up button on your phone or headphone cord to trigger the shutter rather than relying on the on-screen shutter button, to keep from jostling your iPhone too much.

4 KNOW HOW LONG THE SHUTTER TAKES

Since your iPhone's shutter controls are digital, you'll run into software-based *shutter lag*—the time between when you take the picture and the when the sensor actually records the picture. Also note that the on-screen shutter button trips after you lift your finger, not when you press it.

To compensate for this lag, hold the camera steady and count how long your shutter takes. And if you use the touchscreen button, tap it lightly to avoid blurring your photo.

If you are taking an action shot with an iPhone 5s, try holding down the shutter button to use that model's Burst mode. When you do this, the camera takes up to ten

photos a second. When you're done, the iPhone will pick the shot it thinks is best, though you can manually review all of the photos in the series.

5 LET THE SUN SHINE

Your phone can handle a lot of situations with aplomb, but it can't shoot every scene you encounter. Your teeny image sensor craves light and does best outdoors in daylight. For the best exposures, keep in mind the advice that photographers have followed for many decades: Try to position yourself so that the sun is behind you or over one of your shoulders.

Avoid shooting directly into the sun, or you'll radically underexpose your subject. If you're shooting indoors, position your back to the window and turn on the lights.

6 USE THE FLASH TO REVEAL DAYTIME DETAILS

It may sound counterintuitive, but when you're shooting in daylight, a fill flash is your secret weapon. It produces a quick burst of light to reduce the shadows that bright sunlight can cause. A fill flash provides pleasant, even

lighting on your subject's face to fill most of the shadows.

Of course, the tiny LED flash works only at very close range, so don't expect it to help unless you're within a few feet of your subject.

7 USE HDR OVER THE FLASH

Ever since the iPhone 4, you've been able to use an HDR mode that melds several exposures to create a single picture with an impressive amount of detail and a broad range of tones and



colors. Try using it instead of the flash when you're faced with tricky lighting conditions. (For more about using HDR, see page 40.)

8 DON'T USE DIGITAL ZOOM

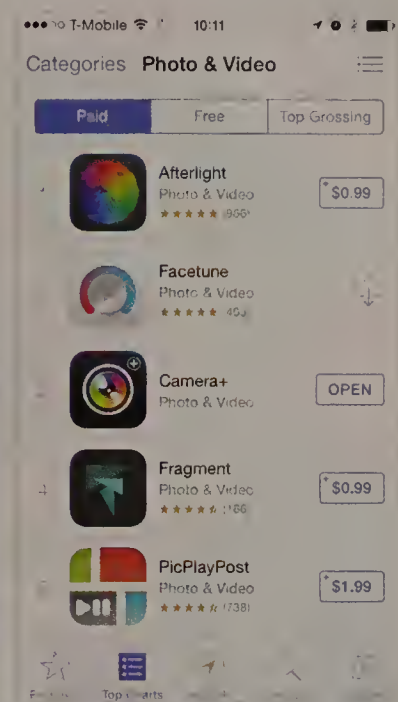
Your iPhone can't magnify the image by using an optical zoom, the way many compact or professional cameras can. Instead, it uses a digital zoom, which merely makes the pixels big and blocky, obliterating fine detail. Zooming in digitally also makes it even harder to take a steady photo.

Want to fill the frame? Then move closer to your subject. If

you really need to zoom in, you can get the same digital effect with an image editor later.

9 STOCK UP ON SOFTWARE

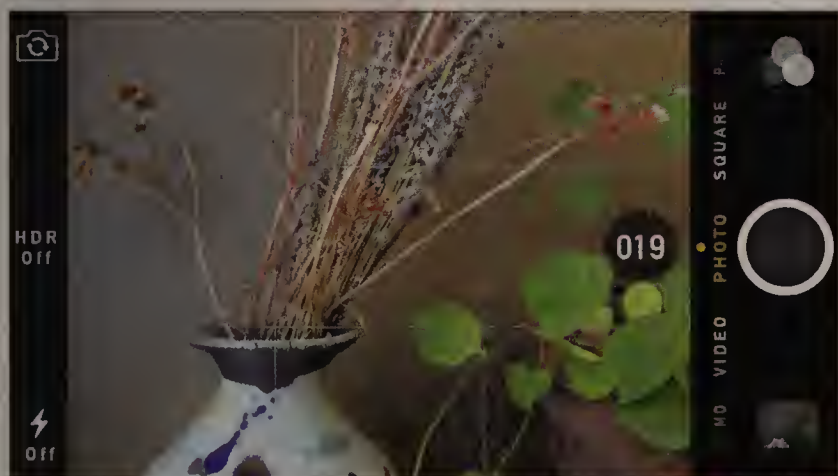
One of the biggest benefits of carrying an iPhone is that you can install scores of apps.



Check out the iTunes App Store to find programs that improve the way the camera works, as well image-editing apps that let you enhance your photos after the fact.

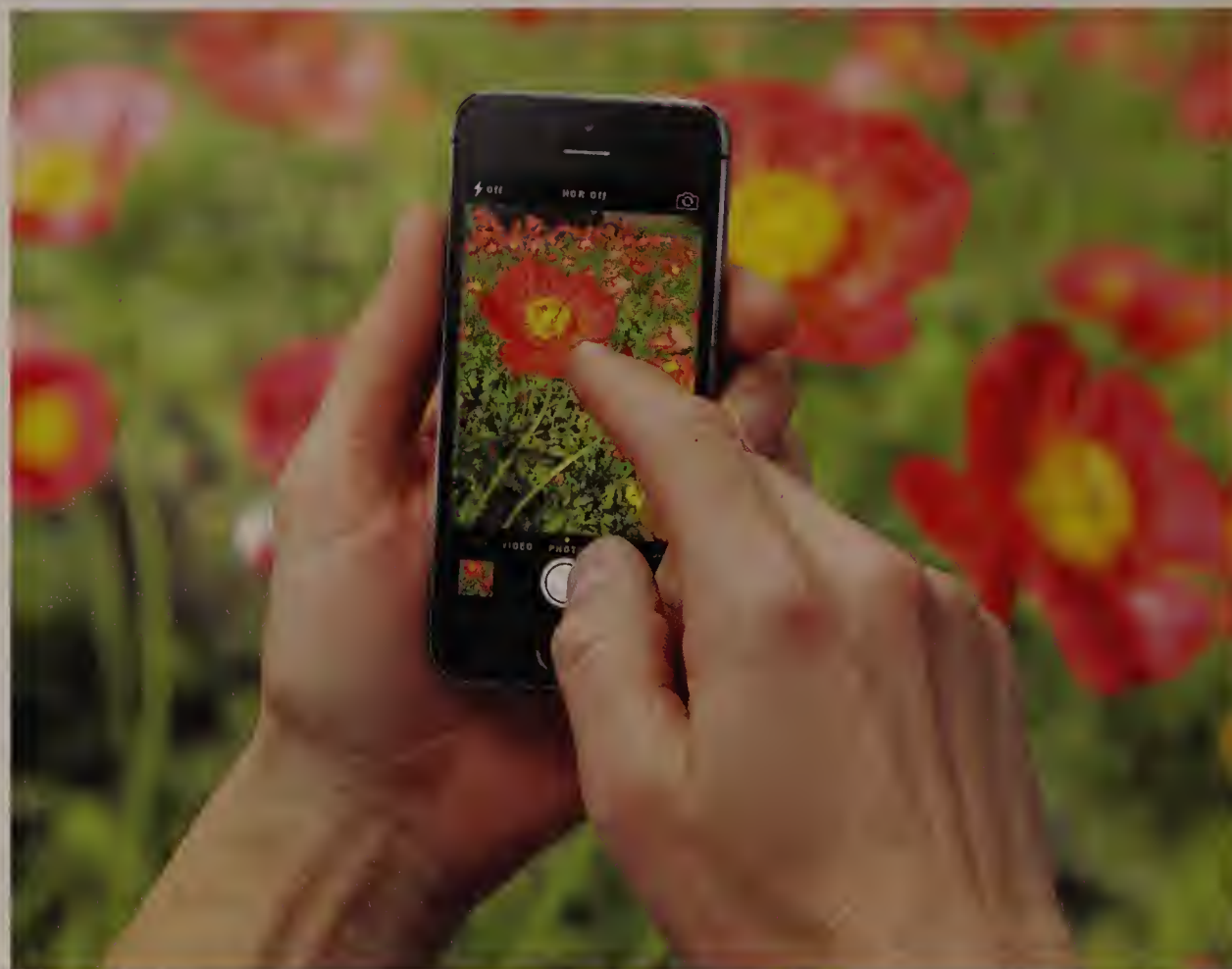
10 DON'T BE AFRAID TO EXPERIMENT

After you snap your photo, you can use the Photos app, iPhoto, and third-party apps to make tweaks. (See page 46 for an iPhoto primer.) You can wield most of these controls as if you were adding spices to a soup: Experiment and apply them "to taste." The saturation controls, for example, adjust the intensity of colors. It's usually best to stick with low or medium levels, since high levels tend to make everyone look like an overcooked turkey. Effects such as negative, sepia, and black-and-white can also help you take charming photos.



Light Touch When you take a shot using the touchscreen's shutter button, tap it lightly to avoid shaking the camera and blurring the image.

HOW TO ADJUST YOUR SETTINGS



Unlike a compact camera or a DSLR, your iPhone doesn't let you adjust the most popular settings: aperture, lens length, shutter speed, and white balance. That said, several tools within the Camera app (and other third-party programs) can aid you in taking very attractive pictures.

EXPOSURE AND FOCUS

Setting your iPhone camera's *exposure* (which controls the image's brightness) is a simple matter of tapping once on whatever part of the image you'd like to source. If you move, or if the view changes too much, the Camera app recalibrates and picks a new focus and exposure point.

If you're taking a *macro shot*

(where one object is in sharp focus while the background is blurred), or if you want to focus on a bright area and leave the rest of the picture washed out, you can lock the exposure and focus on a specific point. Just tap and hold on that point until a yellow focus box appears and pulsates; then release. The words 'AE/AF Lock' appear at the top of the app. To clear the lock and change the focus, tap

anywhere else on the screen.

Keep in mind that the Camera app forces you to lock the exposure and focus together; you can't set the exposure on one object and set the focus on another.

HDR

When using the iPhone's camera, you can enable HDR (high dynamic range) for your photos by tapping *HDR On/Off*

at the top of the viewfinder. *Dynamic range* is the light spectrum that an eye—or a camera sensor—can read; it can be great for shots that have multiple light levels. A sunset-portrait shot, for example, will capture both your subject and the fire-red sky. Apple's HDR setting takes three images at different exposures (under-exposed, overexposed, and in the middle) and combines them into an image that has more details in both the shadows and the highlights.

Though it may be tempting to leave HDR on all the time, each HDR photo takes several seconds to save, and the larger (and extra) images eat up storage space fast.

HDR is effective in many instances, but there are a few situations to watch out for.



Lock Focus When you tap and hold on a point to lock the focus, this yellow focus box appears.

When capturing motion:

If you're shooting a fast-moving subject or you move the iPhone while shooting, the final HDR image can show *ghosting*—in which the multiple shots are misaligned and objects appear in more than one place. To avoid ghosting, use a tripod.

When contrast is key:

A good shot can create a sense of drama by contrasting light and dark—say, to play up the impact of a dark silhouette against a bright background. HDR shots decrease image contrast.

When recording vivid

colors: HDR mode can bring back colors in blown-out or dark areas. But when you are taking pictures of colorful subjects that are properly exposed, HDR mode desaturates colors. To avoid this, turn off HDR. For example, if you're shooting a horizon where the blue sky is the focus and you don't mind a dark foreground, turn off HDR and tap to focus on the sky so that you keep the vivid blues in your image.

When you need a flash:

When HDR is on, the iPhone can't use the flash. To get both of them at once, you'll need to use an external light source.

BURST MODE

If you have an iPhone 5s, you can activate its Burst mode to take ten pictures a second: Tap and hold the shutter button, and your device will pick the least blurry shot of the bunch. Like the HDR mode, though, this tool sucks up storage. So as you save your favorites, take a moment to delete the rejects.

FLASH

The flash has saved many a nighttime photo, but often at the expense of adding red-eye and blinding your subjects.



Rule of Thirds

Placing your subject off center, using a three-by-three grid, creates a more compelling image.

WHEN YOU ARE SHOOTING IN A LARGE VENUE, SUCH AS AT A CONCERT, YOUR FLASH IS USELESS. USE HDR INSTEAD.

The iPhone flash illuminates subjects well up to about 6 feet away, so you'll want to use it in close quarters. In addition, the iPhone's LED flash often adds an odd blue glow, though you can correct this effect by using third-party editing apps.

Here are some cases where you should avoid using a flash.

At large events: When you are shooting in a large venue, such as at a concert, your flash is essentially useless. If you want your iPhone's camera to compensate for low-light conditions, use HDR instead.

Around glass: If a mirror, a window, or a TV or computer

screen is situated nearby, your flash will bounce off of it and create a blurry ball of white light somewhere in your picture. Turn the flash off.

SQUARE FORMAT

The square image has turned into the standard image format for social media. It looks good on any device, no matter how you're holding it.

In iOS 7, you can elect to shoot pictures in a square format. This option is ideal for Instagram addicts, as they don't have to capture shots using Instagram itself, which tends to freeze and crash.

LIVE FILTERS

Can't wait to add a filter in your iPhone's digital dark-room? Since the advent of iOS 7, if you have an iPhone 4 or later, Apple has let you apply live filters as you're taking the photo. Effects range from dramatic monochrome to more-playful color filters.

Once you've chosen a filter, the camera stays in that mode until you disable it. Unfortunately, you can't use the live filter in Video or Panorama mode. And you can't turn off the effects once you've saved a photo; so for serious shots, it's best not to use a filter as you shoot, in case you want the original, unedited image later. You can still access the live filters in the Photos app if you decide to wait until later.

GRIDS

Photographers and artists alike adhere to the "rule of thirds," which tells us that photos (and videos—just watch TV and movies for proof) look better when the subject is off center, aligned about a third of the way from left, right, top, or bottom of a grid composed of two horizontal and two vertical lines (see the image to the left). According to the rule of thirds, the most visually interesting parts of the photo should fall along one of the lines, or at one of the points of intersection.

Many seasoned photographers can imagine invisible grid lines when composing a shot, but your iPhone makes the task easy for you: Turn on the Grid feature by tapping *Settings* → *Photos & Camera* → *Grid*. This overlays a three-by-three grid on your frame, letting you apply the rule of thirds effortlessly, even if you're a beginner.

HOW TO SHOOT ANYTHING



Here are a few common situations and some tips on how to photograph them successfully. We emphasize basic approaches, but don't be afraid to get creative and capture something unique.

SUNSETS AND BRIGHT WINDOWS

If you find yourself observing a beautiful sunset, and you're itching to take someone's picture in front of it, remember that the sun is still very bright even when it's setting. This means that you're shooting in a backlit situation, so you need to take the same steps you would if you were shooting in front of a sunny window.

When capturing a backlit portrait, use your iPhone's flash to illuminate your subject. Because the camera will expose for the background lighting, the result should be a

nice, even exposure. Alternatively, you can tap to set the exposure on your subject and then use the iPhone's HDR mode to flesh out the sunset's shades. HDR is perfect for capturing sunset landscapes.

LANDSCAPES

You might suppose that you need to use the widest angle possible to capture a vast landscape. But the problem with using a wide angle is that when you zoom out, distances get stretched and details in your image get smaller. The result can be an image with no discernible subject.

For great landscape photos, layer your shot: Find something evocative in the foreground, middle ground, and background that you can unify in an image.

Sometimes, a scene is simply too big to fit in a photo. In that case, go for the details instead: Get in close and capture just a sliver of a broad vista, or find an evocative detail in the scene to shoot.

CRISP MOTION

Capturing fast-moving subjects such as athletes or kids can seem impossible when you're using an iPhone; by the

time you frame the shot and tap the shutter button, you've missed the action.

Compact and professional cameras let you increase your shutter speed, but the iPhone doesn't. Instead, try these tricks. If you're close to the action, turn on the flash to help you freeze the action. Set your flash to *On*, which forces the flash to fire even in well-lit situations.

Your odds of getting a good shot increase if you capture the subject at the peak of the action. However, developing good timing takes practice.

Complicating the process is the problem of shutter lag. To

combat it, try using a tripod to stabilize the camera. Alternatively, use an external release button—such as the Volume Up control on your headphone cord or Bluetooth remote—to fire the shutter without shaking the camera. This is also a great opportunity to use Burst mode: Press and hold the shutter release button to take a series of photos at once. Hopefully one will catch the action.

You also want to keep the focus on your subject. For example, if you manually set the focus on the left side of your frame and the subject moves to the right, the camera might focus on the background instead of on your model. Try locking the focus on your subject ahead of time. Another trick is to focus on the area you expect the action to move to.

NIGHT SCENES

To take effective night shots, where light is minimal, use a tripod to steady the camera, and then use either an external shutter release button or a third-party app to set a timer. Since your device has a fixed aperture, you can't fiddle with it to let in more light in a low-light situation; but if you're taking a picture of a sign or of a bright, starry sky, you might get lucky.

KIDS

The best way to photograph children is to get down on their level. Once you're at eye level, mix it up. Go in close and shoot with a wide angle; if your kids are skittish, shoot from farther away and try zooming in a bit with the digital zoom or with an external iPhone lens.

GROUP SHOTS

When you want to photograph the entire family, don't just line

ONE TRICK WHEN SHOOTING ACTION SHOTS IS TO FOCUS ON THE AREA YOU EXPECT THE ACTION TO MOVE TO.

everyone up against the wall, execution style. Instead, aim for a more complex or natural composition. Mixing sitting and standing postures can be a nice option. Not everyone has to be on the same plane. Lines of people stretching toward the camera can be an interesting effect to play with.

The iPhone 5s has a face-detection feature that locates the people in a shot, and then fine-tunes both the focus and the exposure for those faces. Face detection is also a boon for flash photography. With face detection turned on, the

flash doesn't try to light up the whole room—it concentrates on the people within range.

Face detection is at its most effective when the camera can see both of the subject's eyes; its accuracy diminishes greatly when handling profile shots. Also keep in mind that although face detection is fast, it isn't instantaneous.

If you have an older iPhone with no face-detection capability, you can get similar results with a bit of extra work. First, to gain better control over your camera's focus, point the device directly at the person

you want to focus on so that he or she is in the middle of the frame; lock the focus by tapping and holding, recompose the shot, and take the picture.

OUTDOOR PORTRAITS

Despite the fact that you're shooting on a bright, sunny day, everyone in the foreground of your photos seems to be lost in the shadows. What gives? The reason your shots look gloomy is precisely because the ambient light is so bright outside. This effect is called *backlighting*. Sunlight can cast strong shadows on a person's face and can create dark circles around the eyes. It also tends to bounce off a person's skin and accentuate shiny spots. The iPhone's HDR setting can minimize the effect of these two problems and create a more evenly lit portrait.

If the subject is completely backlit, however, the limited powers of HDR mode might not be sufficient to brighten the subject's face. To shoot a usable backlit portrait, first tap to focus on the darkest part of the person's face. The background at this point will look extremely blown out. After you take the shot, the final HDR photo will combine your subject's properly exposed face with a slightly toned-down background.

You can also cure a bad backlighting problem by turning on your flash, as long as your subject is within range. Your camera will do its best to expose properly for the background while producing enough light with the flash to illuminate nearby subjects. This simple technique can transform a disappointing photo into a stunning one.



Face Detection

The iPhone 5s can find faces in a photo and adjust the focus and exposure accordingly.



Events Shooting When you're photographing scenes at an event, take a lot of shots to increase your odds of getting that perfect picture.

Another way to fix backlighting is to lock your iPhone's exposure while pointing it at an area of the scene that has about the same amount of light hitting it as your subject does and that is about the same distance from you—say, a patch of grass. Tap and hold on the grass to force the camera to lock in the meter reading. Then compose your shot and take the picture.

WILDLIFE

Animals pay little mind to cameras mounted on a sturdy tripod as long as they don't see a human being crouching down behind that tripod. If you don't have a set of Bluetooth headphones, consider buying a pair so that you can use the cord's volume control to trigger the shutter. You can then position yourself at a distance (or even inside a tent or cabin) and fire away as the animals go about their business. (If you're

GET CLOSE TO YOUR SUBJECT: TIGHTLY FRAMED CANDID SHOTS FEEL MORE INTIMATE.

shooting this way, switch off the camera's beeps, clicks, and flash if possible, unless you're keen on taking pictures of an animal's backside.)

If you expect the area where you're shooting to soon to be populated with animals, you won't be free to wander outside and adjust your iPhone's exposure once the action begins. So take a few test shots in a critter-free environment with similar lighting conditions, adjust your device's exposure, and then try the real thing once your furry or feathered guests arrive.

EVENTS

Parties, weddings, holiday celebrations, and other events

tend to take place in conditions of low lighting. The mood lighting makes for a great party atmosphere, but trying to capture it in your photos isn't easy. When the flash fires, the shots can look as though you took them in a dungeon.

While your flash does a good job of illuminating the subjects within range, everything farther than about 6 feet away fades to black. Instead, try using HDR mode on still subjects, or lock your exposure on a dark object before the party begins to compensate for the lighting.

And then keep shooting. You'll no doubt end up with lots of shots that are blurry, but don't worry—many of the remaining ones will be striking and unique.

Pick a filter that fits the mood of your event and shoot away! The photos from the night will all have the same fun look.

It's also a good idea to move in close to your subjects and shoot often: Tightly framed candid shots feel more intimate. While shooting, don't forget to change your angle. Look for high angles when people are bunched together, so you can get a clean shot. Try to position yourself in such a way that you can compose as uncluttered a shot as possible; isolating the defining moment in a photo makes it even more powerful.

BEHIND GLASS

Whether it's an exotic landscape seen from an airplane window or a shark cruising inside a public aquarium, some of the world's most interesting subjects are on the other side of glass. But if you're don't set up the shot carefully, you'll end up with a self-portrait instead—or even worse, a photograph of your flash's reflection.

The mistake many people make in this situation is to stand too far from the glass. When you do this, you pick up all of the light sources in the room, reflected in the shiny surface. The key is to eliminate these reflections by turning off your flash and placing the back of your phone as close to the glass as possible. This transforms the glass into just another lens filter.

One exception to the rule of getting right up against the glass is if you're shooting from a helicopter. To minimize the effect of rotor vibration, you shouldn't place your device against the window. Instead, hold your iPhone slightly away from the glass as you shoot.

CANDID SHOTS

Staged shots, such as group portraits, may be a staple of event photography, but candid photos provide the spice.

Use HDR mode at a party for in-the-moment low-light candid photos. Unless you absolutely need it, retire the flash and rely on existing light for candid shots. This will allow you to work quickly and from a greater distance. Keep in mind that candid photos rely less on perfect lighting than they do on human interaction and emotion. So don't worry too much about the presence of a little added visual noise.

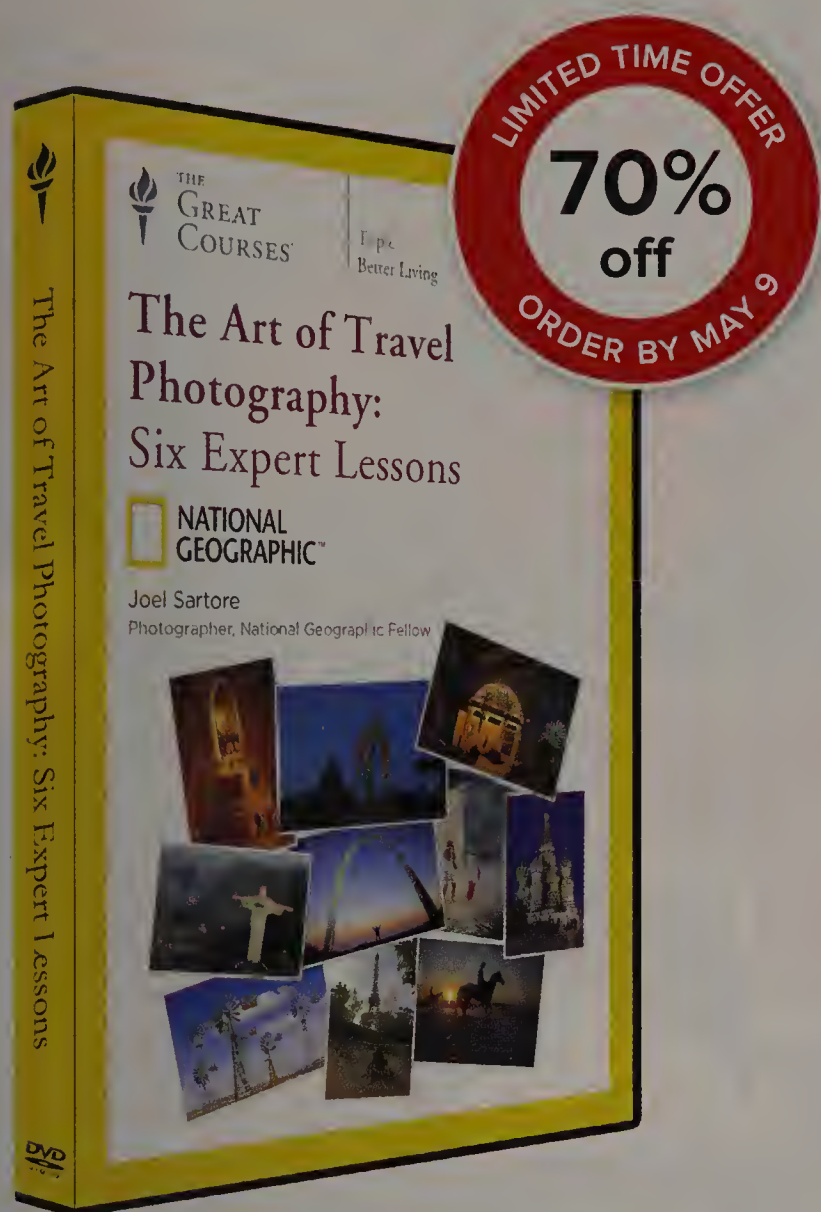
If you're feeling like getting funky, parties are a great time to bust out your iPhone filters.



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What You Should Know About

iLife

How well do you know iPhoto and iMovie? Here are quick primers on both.

BY CHRISTOPHER BREEN

ILLUSTRATIONS BY I LOVE DUST

iPhoto

The basics of importing, sharing, and editing images, and using Photo Stream.



IMPORTING & SHARING IMAGES

When you string a USB cable between your Mac and your iPhone, iPod touch, iPad, or switched-on camera, iPhoto launches and offers to import images from the device. Unfortunately, though importing usually works well when you're linking to an iOS device, it doesn't work with some cameras.

In the absence of a technology enabling the Mac OS to recognize every camera that comes along, Apple creates updates to let cameras work with its software. The updates cover many popular cameras, but some models don't make the cut.

Your digital camera contains a memory card—in most instances a Secure Digital storage card. If your Mac has an SD slot, remove the card from your camera and slide it into this slot. By default, iPhoto will launch and offer to import your images.

If your Mac doesn't have such a slot, or if you use a media card format other than SD (such as CompactFlash), you can buy a memory card reader that plugs into a Mac's USB port and accommodates various media card types. Insert the card into the appropriate slot on the reader, and iPhoto will launch and prompt you to import the images from the media card.

Import Your Pictures

Imagine that you've plugged your iOS device, camera, or media card into your Mac. iPhoto launches and a progress bar appears. When the progress bar vanishes,

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an Import pane takes up most of the iPhoto window. The pane's top-left area shows the name of your iOS device, camera, or memory card, as well as a date range derived from the timestamps of the first and last images. Below this name is an 'Add event name' field and a Split Events option. In that field you can enter a name for your event, rather than having iPhoto create a series of 'Untitled Event' entries, followed by their date.

If you enable the Split Events option, iPhoto creates events based on the Auto-split Into Events setting in the General tab (in iPhoto's preferences). The choices are One Event Per Day, One Event Per Week, Two-Hour Gaps, and Eight-Hour Gaps.

Image thumbnails fill most of the Import pane. The Already Imported row displays small thumbnail images of previously imported images. The New Photos area shows pictures you haven't yet imported.

To the upper-right of the pane are two buttons: Import Selected and Import X Photos (X being the number of not-yet-imported photos on the camera or card). To import the unimported photos, click *Import X Photos*. To import some of them, ⌘-click to select images noncontiguously (or <Shift>-click to select a certain range of images) and click *Import Selected*.

When you take either action, you'll see a progress bar at the top of the window, along with a *Stop Import* button. Click that

button to halt your first order.

When iPhoto has finished importing the images, a window will ask if you'd like iPhoto to delete the now-imported images from your device. Your options are Delete Photos and Keep Photos. I click the latter; I delete images directly on my camera because iPhoto's Delete Photos command isn't as reliable.

View Your Images

To view an image so that it fills most of the iPhoto window—or the Mac's screen if you've chosen *View → Enter Full Screen* (⌘-<Control>-F)—double-click it. At Full Screen, you can move between images by using the Mac's left and right arrow keys or the arrow icons at the top of the window, or (on a trackpad or Magic Mouse) by swiping two fingers to the left or right.

Creating a slideshow on the fly is a cinch. While viewing images as thumbnails, just click the *Slideshow* button at the bottom of the window. At once, any images in the selected album or event become part of the slideshow.

When you click the *Slideshow* button, a sheet informs you that some photos need to be prepared for full-size viewing. If you



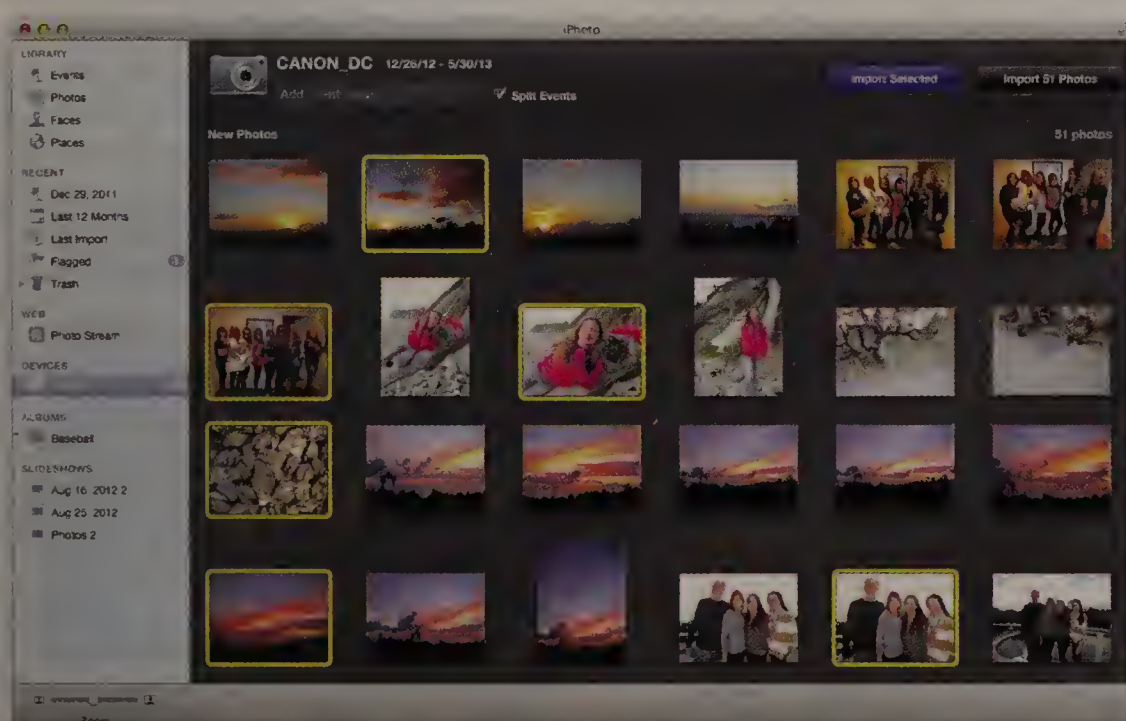
Card Reader Import

A typical card reader can import from a variety of card types.

click *Prepare Photos*, you may have to wait awhile as iPhoto readies the images for use. I click *Continue Playback*. If a problem arises due to the lack of a full-size image, I quit the slideshow and try again, this time clicking *Prepare Photos*.

Before your slideshow starts, iPhoto opens a window where you can choose a theme and music, and configure settings.

Once you've created a slideshow, the theme, music, and settings you applied to it take effect whenever you play it. To change those settings, move the cursor and the transport controls will appear. Click the *Themes*, *Music*, or *Settings* button to adjust that element. To leave a slideshow, press the <Esc> button on the top-left of the Mac's keyboard.



iPhoto's Import Pane From here, add a name for your event, and select photos for import.





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PHOTO STREAM

Photo Stream is a component of Apple's iCloud service. The general idea behind it is pretty simple. Once you've signed up for an iCloud account and configured it properly, you can sync any images on a device associated with your Apple ID with other devices that use that same ID.

So, for example, if you've taken a picture with your iPhone, that picture can appear on your iPad, your Apple TV, and (within iPhoto) your Mac. And it will do so without your having to choose to share it. Everything happens in the background.

Set Up Photo Stream on Your Mac

Begin by launching System Preferences (under the Apple menu) and selecting the iCloud preference. If you haven't signed in to your iCloud account, do so now. (If you haven't obtained an Apple ID, click the link to do so.) In this window, first enable the *Photo Stream* option. Then click the *Options...* button that appears to its right, enable *My Photo Stream* and *Shared Photo Streams*, and click *OK*.

The first option instructs your Mac to download new photos that your other devices share via iCloud and to upload to your devices any images you add to Photo Stream on your Mac. The second option lets you share streams with other people and subscribe to other users' streams.

Launch iPhoto and select the *Photo Stream* entry in iPhoto's Library pane. In iPhoto's main window, click *Turn On Photo Stream*. If you're already sharing one or more Photo Stream albums from another device (or from someone else's shared Photo Stream album), those images will appear in the main window.

To confirm the configuration on your Mac, choose *iPhoto* → *Preferences* and click *Photo Stream* in the resulting window. You'll see four checked options: *My Photo Stream*, *Automatic Import*, *Automatic Upload*, and *Shared Photo Streams*. I've explained the first and last options, so now let's review the middle two.

Automatic Import ensures that images in your *My Photo Stream* album get downloaded to and included in the *Events*, *Photos*, *Faces*, and *Places* albums. (On an iOS device, Photo Stream permanently downloads images to the device only when you add them to another album.) Because you've enabled *Automatic Upload*, your stream will share any photos that you add to iPhoto (limited to the most

Shared Photo Stream People you share a stream with receive an email invitation to join.

recent 1000 images). These photos will stay in your Photo Stream for 30 days, after which they'll disappear (though they won't be deleted from their original source).

At this point, Photo Stream will share your iPhoto images with any devices that use your Apple ID and have suitably configured Photo Stream options.

Configure Photo Stream on Other Devices

iOS devices: On your iPhone, iPod touch, or iPad, tap *Settings* and then tap *iCloud*. In the iCloud screen, tap *Photo Stream*. In the Photo Stream screen, enable the *My Photo Stream* and *Shared Photo Streams* switches. Your device will now share the photos it takes and let you see photos added to your Photo Stream or added to shared streams to which you subscribe.

Apple TV: On your Apple TV's Home screen, about halfway down and on the left, select *Photo Stream* to see any albums in your Photo Stream as well as those you subscribe to. Choose an album and press the remote's *Select* button to view the images as you would any other picture on the Apple TV. To delete an image from one of your Photo Stream

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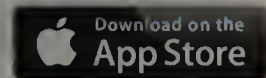
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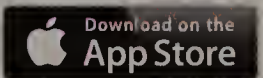
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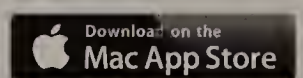
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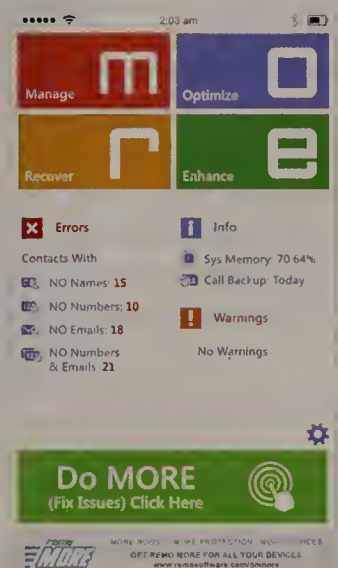
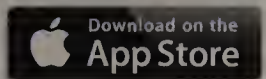
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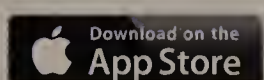
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albums, press and hold the remote's *Select* button until a window with a *Delete Photo* button appears. Press the remote's *Select* button again to delete the image from the Photo Stream album.

To turn off your streams, scroll to the bottom of the Photo Stream window and click *Settings*. The next screen has three options: Turn Off My Photo Stream, Turn Off Shared Photo Streams, and Sign Out. Each option does what its name indicates.

Share Photo Streams

You can share your photos with others (and in turn, view their shared photos) with Photo Stream. The procedure differs slightly between iPhoto and iOS devices.

iPhoto: In iPhoto choose an album, event, face, place, or group of selected photos and click *Share* → *Photo Stream*. In the window that appears at the bottom-right of the iPhoto window, click *New Photo Stream*. A New Shared Photo Stream sheet appears. In the sheet's *To* field, enter the email addresses (separated by commas) of other people with whom you want to share the photo stream. Enter a name for the stream in the *Name* field if you like. If a person you want to share the stream with doesn't have an Apple device (including a Mac), enable the *Public Website* option so they can view your pictures via a Web browser.

iOS: On an iOS device launch the Photos app. Open an album by selecting it, and tap the *Edit* button. Tap the images

The software places images in a new Photo Stream album and sends an invitation to anyone you've specified to join the stream.

you'd like to share, and then tap the *Share* button. In the window that appears, tap *Photo Stream*. An 'Add to a Photo Stream' window will appear. Tap that window to add the selected images to an existing Photo Stream album, or tap *New Photo Stream*. As on the Mac, you can add names to the *To* field and, if you like, give your Photo Stream a suitable name. If you want to make the images available



Photo Stream Pane This pane shows you all of the images in your Photo Stream albums.

on a public website, enable that option.

Tap the *Next* button, and the window flips around. Add a comment if you care to, and tap *Post*. The software then places images in a new Photo Stream album and sends an invitation to anyone you've specified to join the stream.

In either case, Photo Stream uploads your shared images to iCloud, and the people you've invited receive an email notification. Each invitee who has an Apple device can click the message's *Subscribe to this Photo Stream* link to alert iPhoto (or on an iOS device the Photos app) that the person would like

Stop Sharing Your Photo Streams

You can add or remove people from your Photo Streams. On the Mac, select *Photo Stream*, choose the stream you want to work with, and then click the *Info* button at the bottom-right of the iPhoto screen. The names of subscribers to the stream appear in the *Shared With* area. To add subscribers, click this area and enter their names. To drop individuals from the subscriber list, highlight the ones you wish to delete and press your Mac's <Delete> key.

On an iPhone or iPod touch, launch the Photos app, tap the *Photo Stream* item, and tap the blue right-pointing arrow icon. The resulting Edit Photo Stream screen shows the stream's subscribers and includes an *Add People* entry. To add subscribers, tap this entry and enter other email addresses in the *To* field. Tap *Add* when you're done. To rid your stream of a subscriber, tap the person's name and then tap *Remove Subscriber* in the resulting screen.

On an iPad, launch the Photos app, tap the *Photo Stream* tab, tap the *Edit* button, and tap the Photo Stream album you want to work with. In the Edit Photo Stream window that appears, tap *Add People* (to enlarge your audience), or select a name and, in the next window, tap *Remove Subscriber* (to shrink it).



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EDITING IMAGES

You can use far more powerful applications to edit your images. Consider the following coverage as merely outlining the first steps in image editing.

The Edit Window

To begin the editing process, select an image and choose *Photos* → *Edit Photos* (⌘-E) or click the *Edit* button at the bottom of the iPhoto window. The resulting window offers an enlargement of your image, previews of nearby images, and three tabs—Quick Fixes, Effects, and Adjust. Let's walk through each one.

The Quick Fixes Tab

iPhoto's Quick Fixes area is for making broad edits without a lot of bother. Here's how the options shake out.

Rotate: If your image is in portrait view when it should be in landscape view, you correct its orientation with this control. Click *Rotate*, and the image moves 90 degrees counterclockwise. Hold down the <Option> key and click *Rotate* to

rotate the image clockwise. Keep clicking until the image is oriented as you desire.

Enhance: This is iPhoto's "Take Your Best Shot at Fixing This Image" button. Click it, and iPhoto automatically adjusts levels, exposure, contrast, saturation, and other controls to improve the image. In some cases, Enhance vastly improves the image. In others, the results may be a bit rough. You can use other controls to tweak the settings that Enhance imposes. If you hate the automated changes, click the *Undo* button at the base of the pane.

Edge Blur The subject is near the frame's edge, but the edge blur helps you focus on him.

Fix Red-Eye: If a flash photo leaves its subjects with glowing vampire eyes, click the *Fix Red-Eye* button to enable the 'Auto-fix red-eye' option. In response, iPhoto seeks out glowing eyes and removes the red. If the results don't satisfy you, switch off this option and do the task manually: Hover your cursor over an affected eye in the image. Use the *Size* slider to make the target cursor the same size as the eye's red zone, and click the eye. This should turn the pupil from red to black.

Straighten: Click the *Straighten* button to bring up a slider that lets you adjust the angle of the image as much as 45 degrees

Increasing the contrast often adds a bit more drama to an image. Conversely, reducing the contrast causes the image to look somewhat flatter.

clockwise or counterclockwise. To aid you in making the adjustment, a grid appears over the image. Find something in the image that gives you a reliable horizon line (say, the horizon itself if you've taken a shot of the sun setting over the ocean), and then drag the slider until the image looks properly aligned.

Crop: The Crop tool cuts out stuff on the edges of a shot to produce a more compelling image. Click *Crop*, and the frame around the image becomes adjustable. To make a crop, create your selection and click the *Done* button that appears within the Crop area. The unselected content will disappear, and the cropped image will zoom to fill the preview area. To undo a crop, click the *Undo* button at the base of the pane or once again click *Crop* and click the *Reset* button.

Retouch: Click *Retouch* to open a Size slider. Adjust this slider to cover whatever you want to obscure in a photo, and then “paint” over the offending area. When you let go of the mouse or trackpad, iPhoto looks at areas just outside of the painted area and blends those colors to make what you’ve painted vanish.

The Effects Tab

The Effects tab holds controls for making quick adjustments to exposure, contrast, temperature, and saturation. In addition, you can use it to “vintage-ize” your images. The tab includes an array of useful elements for altering images.

Lighten and Darken: With each click of these buttons, the image’s exposure setting increases or decreases, respectively, by 0.10 across a range from –3.0 to +3.0. The setting adjusts only the image’s exposure, not its highlights or shadows.

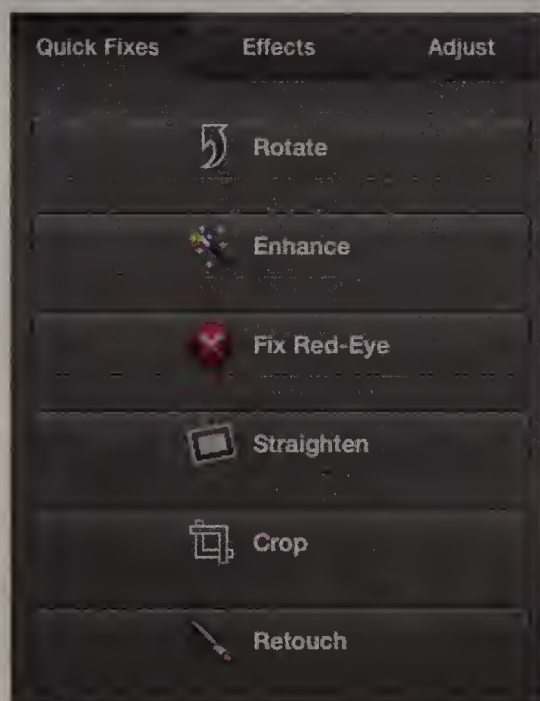
Contrast: The Contrast control works similarly to Lighten and Darken, but across a range from –100 to +100. Each click of the *Contrast* button alters the image’s contrast by an increment of 5. When you increase the contrast, you make darker areas darker and lighter areas lighter. Increasing the contrast often adds a bit more drama to an image. Conversely, reducing the contrast causes the image to look somewhat flatter.

Warmer and Cooler: Photographers



Creative Crop When the action is in the center of the frame, crop to accentuate it.

describe colors as having a particular temperature, as measured on the Kelvin scale. iPhoto supports this idea by allowing you to adjust an image’s warmth or coolness. Broadly, when you click the *Warmer* button, the image becomes more yellow. Click *Cooler*, and the image acquires bluer tones. You might use the *Warmer* button to give an image that you shot indoors with a flash a more lamp-lit look. On the other hand, if an image appears too yellow because it was lit with an indoor bulb, you can reduce its yellowness by clicking *Cooler*.



Quick Fixes The Quick Fixes window gives access to a half-dozen common editing tools.

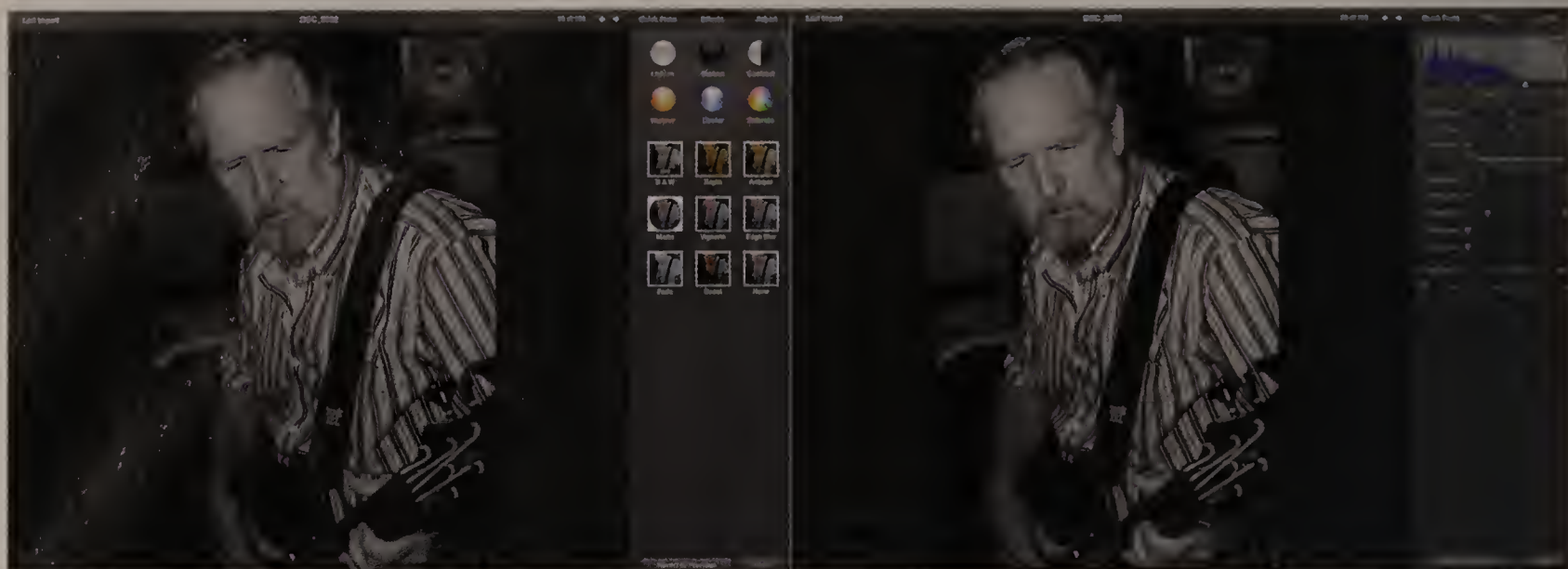
Saturate: When you increase an image’s saturation, nonneutral colors become bolder. Click *Saturate* to bring out reds, blues, greens, yellows, and so on more effectively. Dull or achromatic colors such as gray, white, and black are unaffected by changes in saturation. Saturating an image can make it seem more vibrant, but oversaturating an image can make it appear garish or unnatural.

Other effects: Below the top six effects buttons are presets for such options as B & W, Sepia, Antique, Matte, Vignette, Edge Blur, Fade, and Boost. You can add any or all of these effects to your image by clicking them. Click the *None* button to remove the effects you applied earlier.

The Adjust Tab

Compared with the options in the Quick Fixes and Effects tabs, the ones in the Adjust pane can seem pretty scary—but they’re not really. Let’s take a peek.

Histogram: The hills-and-valleys graph at the top of the Adjust pane is called a *histogram*. In this case the graph represents the distribution of tones—from dark on the left to light on the right—that your image contains. The higher the peaks, the greater the number of pixels in that tonal range. So if you see lots of peaks near the far left side of your image and few on the right side, your image is going to be dark. Peaks located toward the far



right indicate that areas of your photo are *blown-out*—pure white with no image detail in that part of the spectrum to work with. The portion of the graph between the left and right sides represents midtones. A workable image will show a fairly even distribution of tones across the histogram.

Sitting immediately below the histogram are the Black Point slider (on the left), the Mid-Tone slider (in the middle), and the White Point slider (on the right). They define how iPhoto should interpret “this is black, this is the center of my midtones, and this is white,” respectively. By adjusting them, you redefine those reference points, thereby altering the image.

Exposure, Contrast, and Saturation sliders: These three sliders give you finer control over the Effects tab’s Lighten, Darken, Contrast, and Saturate buttons. Move the *Exposure* slider to the right, and the image brightens. Move it to the left, and the image darkens. The *Contrast* slider increases or decreases the difference between light and dark areas, while the *Saturation* slider pumps up colors or tones them down. As you move these sliders, the histogram changes. Making such tweaks can help you better understand exactly what the histogram is doing, and what a “good” graph looks like.

Below the Saturation slider is the *Avoid saturating skin tones* option. If you enable it when you have an image with a human subject, the person’s skin tone won’t change even though the image’s other colors do as you adjust the slider.

Definition, Sharpness, and De-noise:

Move the *Definition* slider to add detail, generally by removing “haze” from your image. At its highest setting, everything in the image is clear, which can look great. But with human subjects, too much definition yields unduly harsh results.

Sharpness increases contrast between adjacent elements. Again, at high levels, Sharpness can translate into harshness.

De-noise tries to smooth out overly

One-Click Fix iPhoto’s one-click (left) and manual (right) black-and-white adjustments.

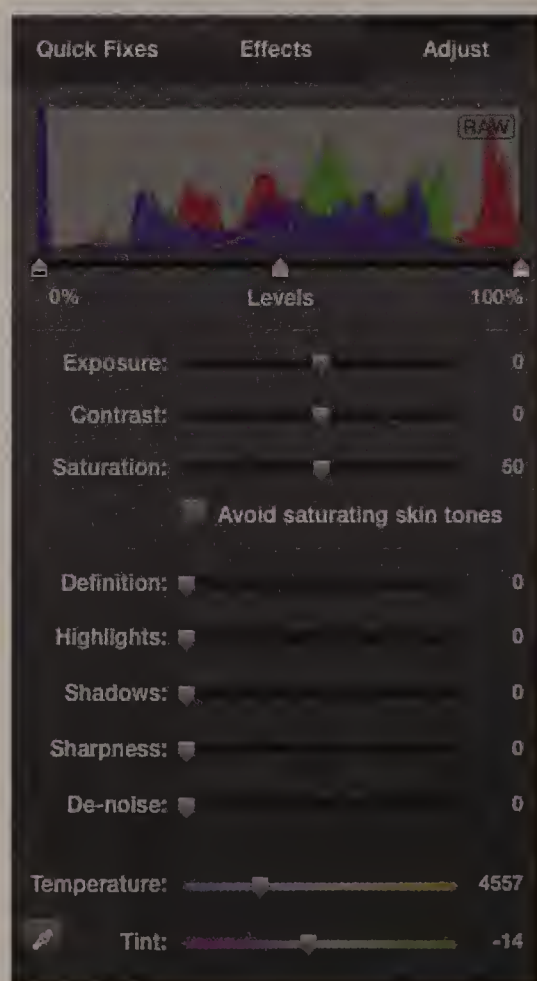
pixelated or too-sharp images. You might use it if you took an underexposed shot (indoors without a flash, say), pumped up the exposure, and then found that the image looked blocky when you zoomed in. Overused, it smears away detail.

Highlights and Shadows: When you push the *Shadows* slider to the right, the image’s dark areas lighten, bringing a murky subject into the light. Do the same with the *Highlights* slider, and bright areas grow dimmer, reducing glare in the background (for example) and helping bring your subject to the fore.

Extreme adjustments with either of these sliders may produce a “halo” effect around your subject, unnaturally separating it from the background. So use each one judiciously and in tandem with the Exposure, Contrast, and histogram options.

Temperature and Tint: You can alter an image’s temperature between the blue and yellow extremes by using the Adjust pane’s *Temperature* slider. Likewise, you can make adjustments between purple and green hues using the *Tint* slider.

You can save yourself some work, however, by relying instead on the eyedropper tool next to the Tint slider. Click it and click a gray or white area in your photo; iPhoto then moves the Temperature and Tint sliders based on its internal calculations. The result is very unlikely to be a perfectly balanced image, but you may find that it is quite satisfactory.



Adjust Pane If Quick Fixes and Effects don’t get the job done, the Adjust pane should.



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iMovie

How to create entertaining, appealing videos—from start to finish.



STARTING A PROJECT

iMovie 10 gathers its import options in a single window that you access by clicking the **Import** button in the toolbar or by choosing **File → Import Media**.

With the Import window open, you'll see three headings: **Cameras** (for cameras and iOS devices attached to your Mac), **Devices** (for volumes such as hard drives connected to your Mac), and **Favorites** (for Home and Desktop entries).

Import Digital Assets

To import media from a connected digital camera, camcorder, or iOS device, select the device's name under the **Cameras**

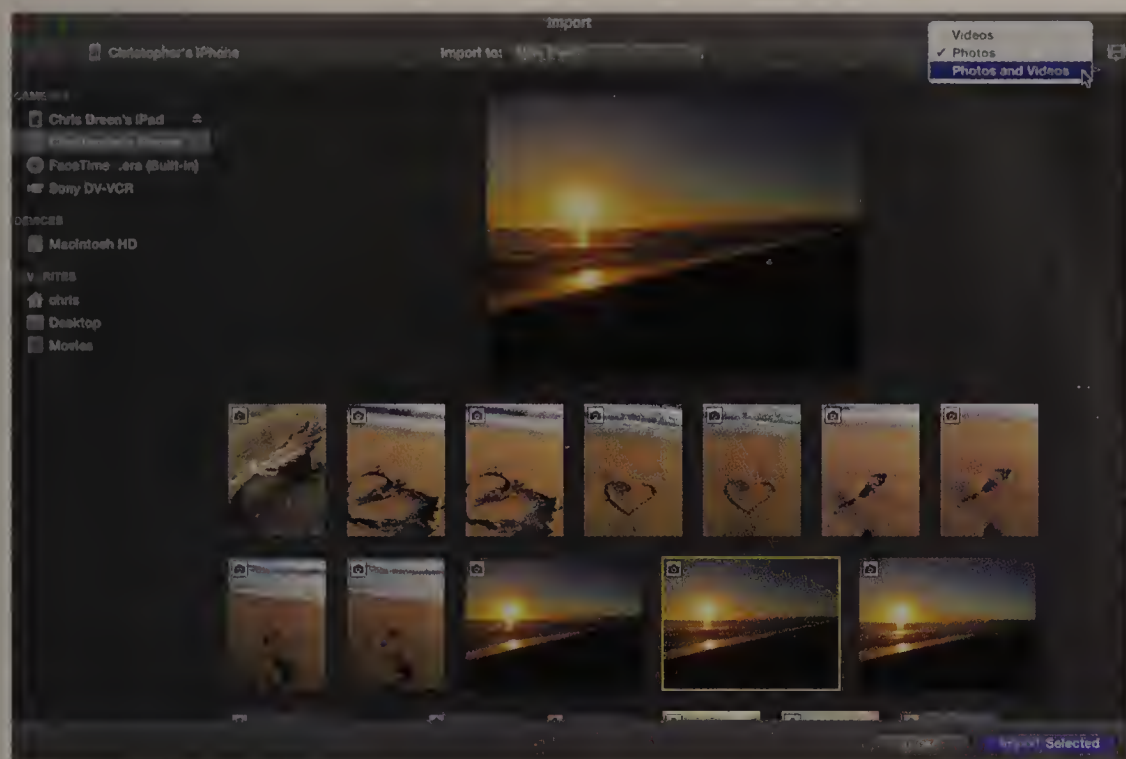
heading. The top of the Import window will reveal an 'Import to' pop-up menu where you can choose an existing event or choose *New Event* to create one. On the window's far right is a pop-up menu for choosing the media type you want to see in the preview area: 'Videos', 'Photos', or 'Photos and Videos'.

You can preview media on some Mac-connected devices. For example, if you jack in an iPad, click *Import*, and select

the iPad under the **Cameras** heading, you see thumbnails of the images and videos it holds. Select a photo or video in the preview window above the thumbnails, and it appears there. If it's a video clip, press the Mac's spacebar to make the clip play in this window. To stop playback, press the spacebar again.

With some devices—such as a digital camcorder connected via USB—the preview may take a long time to play, or it may stop and start. Some connected devices may display no preview window.

To import images or clips, select them and click the *Import Selected* button that appears in the window's bottom-right



Import From iPhone Importing video from an iOS device is just like doing it from a camcorder.

corner. iMovie imports media at its original resolution. Once the importation is complete, you'll see a prompt to eject the device. The media you imported will appear in the Browser pane for the event.

Like earlier iMovie versions, iMovie 10 doesn't support all camcorders and cameras. To see if yours made the grade, visit Apple's iMovie Supported Cameras page (go.macworld.com/supcam).

Alternatively, you can import video clips into an iMovie project by dragging them from the Finder into the timeline or onto an event in the Libraries pane.

Import Analog Video

iMovie 10 supports many tape-based DV camcorders. Connect such a device, click *Import*, and (if supported) its name should appear under the Cameras heading. To import video from it, select it, insert a tape, and use the controls under the preview window to rewind or fast-forward to the beginning of the footage you want to capture. After you click *Import*, the tape plays as iMovie captures the output. When it's done, click *Stop Import*. You'll see your footage in the Browser pane.

Capture Live Video

To capture FaceTime-compatible video from a camera attached to your Mac, click the *Import* button and select your camera

under the Cameras heading. To start the capture, click the red *Record* button that appears below the preview area. To stop the recording, click the button again. Click the *Close* button at the bottom of the window, and you'll find the camera-captured clip in the Browser pane.

Import Audio

To import audio files, click *Import*, choose an attached volume under the Devices heading, navigate to an audio file, select it, and click the *Import Selected* button. (Or select a folder full of audio files, and click *Import All*.) The files will show up in the Browser pane as green bars.

Or click the *iTunes* entry below the Content Library heading in the Libraries pane and, in the Browser pane, drag the track you want into the Project pane.

Create a Movie and Add Clips

Once you've imported media, you can place the media you want in the timeline, add transitions and titles, and export the resulting movie in viewable form.

You can import video clips into an iMovie project by dragging them from the Finder into the timeline or onto an event in the Libraries pane.

To create a movie, choose *File* → *New Movie* or press ⌘-N. In the resulting Create window, choose *No Theme*, click the *Create* button at the window's base, and give your movie a name.

To add video clips to your movie's timeline, select an event in the Libraries pane; any clips belonging to that event will appear in the Browser pane to the right. To add an entire clip, click the clip and press the keyboard's X key. Click the plus (+) button that appears when you hover your cursor over the clip to add it to the timeline beneath, or press the E key to add the clip. You can even drag the selected clip into the timeline.

To add a specific portion of a clip, click and drag over the portion you want to add; then press the E key, click the plus button, or drag the clip to the timeline.

To add still clips, select *iPhoto Library* from the Libraries pane and, from the pop-up menu that appears in the Browser pane's top-left corner, choose an image classification—Events, Faces, Places, Albums, Facebook, Flickr, or Smart Albums. Drag the desired image into the timeline.

Manipulate Clips

Rearrange clips: To shift a clip or image to a new location, click and drag it to the place where you want it.

Shorten or lengthen clips: When you first make a selection in the Browser pane, it may not be as precise as you'd like. To fix that, click on either edge of the clip and drag it toward the clip's middle (to shorten it) or away from the middle (to lengthen it). If you've pulled a portion of a longer clip from the Browser pane, you can extend it to as much as the full length of the original clip. You can make your still images longer or shorter by dragging their edges, too.

Shorten or lengthen audio: If you have a clip in the timeline that contains audio, and you'd like that clip's audio to continue past the length of the edited

clip, you can arrange this by detaching the audio track from the video: Choose **Modify → Detach Audio** (⌘-Option-B).

Add Transitions

Video transitions serve as bridges from one clip to another, help denote passing time or movement from one subject to another, or make it less jarring for your viewers to adjust to the next clip.

To add transitions to your movie, select **Transitions** under the Content Library heading (or press ⌘-1). The Browser pane displays all of iMovie's built-in transitions. Select the one you want, and drag it to the beginning or end of a clip. You can alter the transition's default duration (0.5 second) by selecting the transition and entering a new length in the field to the right of the Transitions pop-up menu, in the Viewer's top-left corner.

Add Titles

To add a title to the beginning of your movie, select **Titles** under the Content Library heading (or press ⌘-2). iMovie's titles appear in the Browser pane. If you've applied a theme to your movie, appropriate titles for that theme show up in the titles area. Underneath you'll see iMovie's stock collection of titles.

Drag a title to the location where you want it to appear, select the title in the timeline, and you'll see placeholder text; double-click that text to enter your own title. To adjust the title's font, size, alignment, and formatting, click the **Adjust** button at the top of the iMovie window to display the available options.

Add Background Music

To add a musical track to your video, choose **iTunes** under the Content Library heading (or press ⌘-4). In the Browser pane you'll see the contents of your iTunes library. Drag a track you want to use as background music into the music



Constructing a Project

After importing your media, you can add transitions, titles, and soundtracks.

track located below iMovie's timeline.

If you want to increase or decrease the music's volume to suit the video, simply hover your cursor over the gray line that runs through the middle of the track and then drag that line up or down accordingly.

To import an audio clip from somewhere other than your iTunes library, drag it from the Finder into this music track.

Share Your Movie

You'll use the Share menu at the top of the iMovie window to share your movie.

Click the **Share** menu to reveal your choices: Theater, Email, iTunes, YouTube, Facebook, Vimeo, CNN iReport, and File.

Theater: By default, when you share a movie via Theater, it uploads to iCloud automatically and is viewable on devices



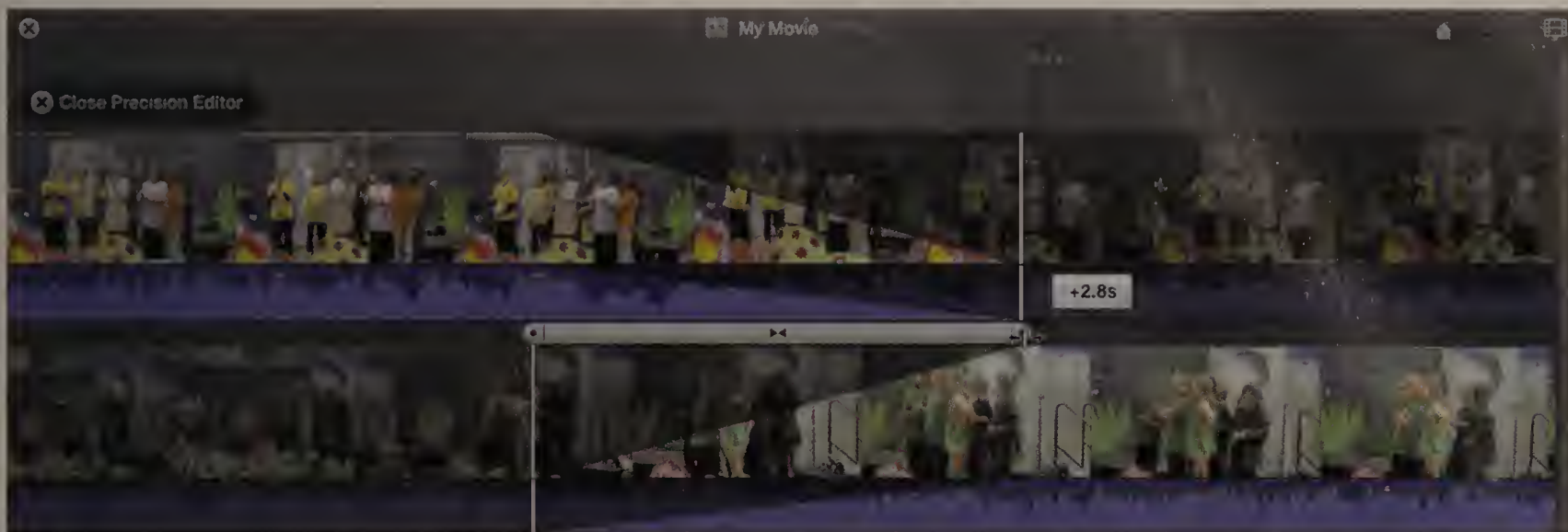
linked with your iCloud account. To view a movie in Theater, click its **Play** button.

Email: Select the **Email** option to email your movie. In the resulting window you can edit the movie's description and tags, and choose a size (Small, Medium, or Large) from a pop-up menu.

Click **Share**, and iMovie will create the movie. When it finishes, your email client will open, displaying a message with your movie appended to it. Fill in the To field, enter any other text you like, and send it.

iTunes: To share your movie directly to your iTunes library, first click **iTunes** to bring up a window similar to the Email window just described. Size options are SD, Large, HD 720p, and HD 1080p. Click the **Compatibility** entry, and a menu tells you which devices will play your movie. Click **Share** to encode the movie and add it to your iTunes library as a home video.

Video transitions help denote passing time or movement from one subject to another, or make it less jarring for viewers to adjust to the next clip.



EDITING CLIPS

Within the timeline, you can drag the bottom corners of a clip's edge to shorten or lengthen the clip. This tactic works fine, but you can't see what precedes or follows the clip's edges. For that you need the clip trimmer.

Double-click the clip, and the clip trimmer opens above the timeline. The active portion of the clip is bright and shiny. Any material that occurs before or after the active clip has a gray sheen. To move to the beginning or ending edit point, click and drag the white line denoting the clip's edge. Drag the line toward the center of the clip to shorten the clip. Drag it away from the center to lengthen the clip. In the viewer pane above, you'll see the beginning of the clip's active portion.

Another way to alter a clip's beginning and ending points is to click somewhere other than on those lines and drag the clip left or right, asking it to begin and end 3 seconds earlier, for example. The length of the clip doesn't change.

The Precision Editor

The precision editor deals with the point where two clips meet. You can use it to move a transition, change a transition's duration, choose a new edit point, or extend an audio track.

In a timeline containing two or more clips, double-click the edge of one clip to open the precision editor. You'll see gray dots with black centers sitting above the beginning and end of the timeline's clips.

Click a gray dot, and the clips move. The clip before the dot moves above the

later clips and shows in its entirety, with the active part of the clip bright and the inactive part dull. Drag the dot to the left to make the second clip play earlier and last longer (and to shorten the first clip). Drag the dot to the right to extend the first clip and shorten the second.

You can shorten or lengthen a clip's audio track independently, but first you must make your clips' waveforms visible. Click the *Adjust Thumbnail Appearance* icon (it looks like a film frame) in the top-right corner of the timeline, and enable the *Show Waveforms* option.

In the blue audio track that appears below the video thumbnail, click and drag the line denoting the end of the active portion of the clip. If you drag it to the right—beyond the bounds of the active portion of the video clip—the audio will continue playing into the next clip.

If you invoke the precision editor after adding a transition between clips, you'll see a gray bubble with dots on either end and arrows inside. This bubble represents the length of the transition. To extend the transition, drag a dot away from the center. As you do, a time readout shows the transition's length. Drag a dot toward the center to shorten it. To make the transition earlier or later, click in the middle of the bubble and drag it to the left or right.

Transitions You can adjust the length of your movie's transitions with the precision editor.

Specific Adjustments

Recent iMovie versions offer windows and tabs for adjusting color, cropping, audio, and effects. In iMovie 10, Apple places those features in a single Adjust toolbar, which you can access by clicking the *Adjust* button at the top of the iMovie window. Here's what the toolbar contains.

Color balance: The color balance control lets you use Auto, Match Color, White Balance, and Skin Tone Balance options to change the tone of your clip. The Auto option analyzes the frame and changes the color cast of the clip based on its calculations of what looks best.

Match Color splits the viewer pane into two views, consisting of the current frame and the frame to be mimicked.

The White Balance option lets you select a white balance based on a neutral color (such as white or gray) in the frame. When you choose this option, the eyedropper tool appears. Click a neutral color in the frame to change the balance.

The Skin Tone Balance option works similarly. Click the eyedropper on the skin of someone in the frame; the color shifts to balance against that tone.

Color correction: You adjust color correction via three sliders. The one for tweaking brightness and contrast holds five controls: Adjust Shadows, Adjust Contrast, Adjust Brightness, another Adjust Contrast, and Adjust Highlights.

The second slider adjusts a clip's saturation, and the third alters a clip's color

temperature, with colder colors on the left and warmer tones on the right.

Cropping: The tool for adjusting a clip's cropping and rotation in iMovie 10 works just the way it always has.

You have three styles: Fit, Crop, and Ken Burns. To force the clip to appear in its original aspect ratio, choose *Fit*. If the original video clip or still image doesn't fit the frame exactly, it won't fill the frame. Choose *Crop* to resize the clip to fit.

'Ken Burns' is iMovie's pan-and-scan effect in which the "camera" moves across the frame and zooms in or out.

To use the effect, first adjust the solid rectangle marked *Start*. This rectangle determines what the frame looks like when the clip begins. Then click the dotted rectangle marked *End*, and size it to encompass the area that you want to fill the frame at the end of the clip. To impose the effect, click the checkmark icon to the right. When you play the clip, it will begin at the Start point and, over time, move to the size of the End frame.

The Ken Burns effect works across an entire clip. You can't impose it on just a portion of a clip. If you'd like to do that, select the clip in the timeline, <Control>- or right-click it, and choose *Split Clip* at the point where you want Ken to finish his business. Now you can apply the effect to just that portion of your movie.

Two rotate buttons near the crop style buttons turn the frame 90 degrees clockwise or counterclockwise, respectively.

Stabilization: When you select the controls for stabilization, two options appear, labeled 'Stabilize Shaky Video' and 'Fix Rolling Shutter'.

To remove shakiness from your footage, enable the *Stabilize Shaky Video* option. iMovie analyzes the selected clip for shaky video. It then crops the video to cut out the edges, and tries to take the shake out of the remaining frame. The more stabilization you apply (from 0 to 100 percent), the greater the crop is likely to be.

"Rolling shutter" is a distortion effect that occurs when certain kinds of camera sensors try to capture a lot of movement or are exposed to pulsing or flickering light. iMovie attempts to remove this effect when you enable the *Fix Rolling*



Video Effects iMovie comes with a generous assortment of built-in special effects.

Shutter control. You can choose how much of the option to apply—Low, Medium, High, or Extra High. If you notice rolling shutter, start with Low and work your way up if the selected setting doesn't improve your movie enough. (To undo the last setting, click the *Undo* arrow icon to the right; then try the next-highest setting.)

Volume: Here you find controls for adjusting the loudness of selected clips. The Auto control "normalizes" the audio by increasing the loudest sounds in the track to a point just below distortion, and bringing up quieter sounds proportionally.

The Mute button entirely silences the audio in selected clips. Alternatively, you can use a volume slider to increase or decrease the audio of the selected clips.

Use the *Lower Volume of Other Clips* slider to perform a technique known as "ducking," which ensures that the audio in

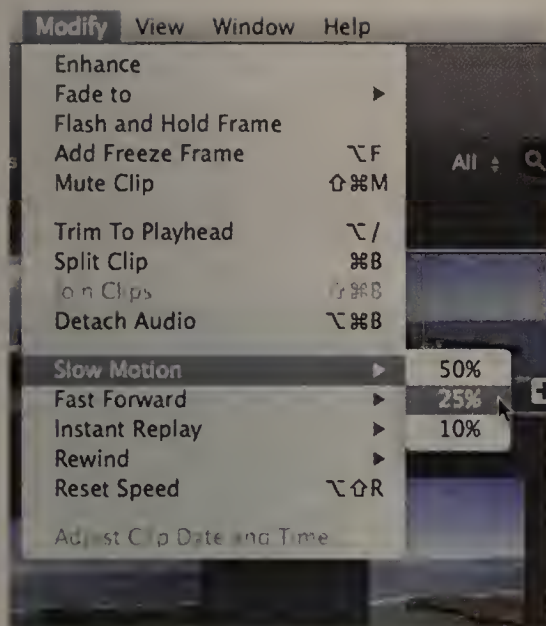
your clips is louder than any other audio track that's playing at the same time.

Though the methods aren't obvious, you can manipulate audio directly within the waveform view in a couple of ways. If you want to change the clip's overall volume, click and drag up or down on the thin gray audio-adjustment line that appears in the middle of the waveform.

The waveform has fade controls in the form of small dots at both ends of this line. Drag the left dot to the right to create a fade-in effect. Drag the right dot to the left to make the audio fade out.

To adjust audio within a single clip, hold the <Option> key and click points onto the audio-adjustment line. Drag these points up or down to increase or decrease, respectively, that portion of the audio.

Noise reduction and equalizer: Though iMovie is not a full-featured



audio-editing application, you can use it to enhance your audio in a couple of ways. Click this adjustment, and you spy two options. The first is for reducing background noise; you use the slider to adjust how much noise to let through.

This effect is pretty broad. If someone is running a vacuum cleaner in the background, for instance, you won't be able to get rid of that sound. And even removing a less obnoxious hum may adversely affect some of the sound that you want to keep. In short, don't expect miracles.

The equalizer option has presets that emphasize or deemphasize certain audio frequencies, so you can bring up the bass or treble, for example. Presets include Flat, Voice Enhance, Music Enhance, Loudness, Hum Reduction, Bass Boost, Bass Reduce, Treble Boost, and Treble Reduce.

Video and audio effects: Select your clips in the timeline, choose this adjustment, and two pop-up menus greet you. The first, Video Effect, offers 19 effects such as Flipped, Film Grain, Vignette, Black & White, and Sepia. Hover your pointer over an effect to see it applied to a sample of your video in the viewer. Click an effect to apply it.

The nearby Audio Effect menu lets you add any of 19 sound effects to your clip's audio track. The reverb effects (small room, medium room, large room, and cathedral) could be useful. The others are mostly for goofing around.

Info: The last adjustment in this area provides one useful control. Select a clip to see its duration in the field of the same



Cropping Options iMovie offers you the choice of three cropping styles: Fit (to retain the original image's aspect ratio), Crop (to resize the image), and Ken Burns (for a pan-and-scan effect).

name. Enter a different duration, and the clip expands (up to the length of the source clip) or contracts. When it contracts, the video doesn't speed up; instead, the clip ends sooner than it did prior to your making the adjustment.

Speed Effects

iMovie lets you slow down and speed up your clips, and it also includes an Instant Replay effect that works great with sports videos (or pie-in-the-face moments).

The equalizer option has presets that emphasize or deemphasize certain audio frequencies, so you can bring up the bass or treble, for example.

To adjust a clip's speed, select it in the timeline. In the Modify menu are Slow Motion, Fast Forward, Instant Replay, Rewind, and Reset Speed commands.

Slow Motion and Fast Forward are for slowing down and speeding up the action (and audio) respectively. The first gives

you options for slowing down the video by 50, 25, or 10 percent. The Fast Forward submenu lists 2x, 4x, 8x, and 20x adjustments. When you apply an effect from these groups, a chrome dot appears in the top-right corner of the clip, indicating that the speed has been adjusted. You can then play with that adjustment by dragging the dot: Drag it to the right, and the clip slows down. Drag it to the left, and the clip plays faster. A rabbit or turtle icon imposed on the clip indicates whether the clip is currently playing faster or slower than the original.

The Instant Replay effect replays the selected video clip, imposing an "Instant Replay" title over the top-right corner of the clip. This command's submenu offers options of 100, 50, 25, and 10 percent; the numbers refer to the speed of the resulting replay. At 100 percent, the clip plays at the same speed as the original. At 10 percent, it runs ten times as long (and ten times as slow) as the original.

The Rewind effect appends a reversed copy of the clip to the end of the clip and plays it at 1x, 2x, or 4x speed. It then repeats the original clip. The effect is like playing some video on your camcorder, pressing *Rewind*, watching the video and audio scrub back, and then pressing *Play* to start playing it normally again.

Working Mac

Tips, Tricks, and Tools to Make You and Your Mac More Productive



Four Fun Ways to Customize Your Mac

Trick out your version of OS X with these easy-to-follow tips.

BY KIRK MCELHEARN

Even though you use your Mac for serious work, you may want to add a touch of whimsy to it. Here are four tips for customizing OS X and making it more fun to use.

1. Try the iTunes Artwork Screensaver

When you're not working, by default your Mac's screen turns black with a subtle, shifting white Apple icon and a bit of text, usually your username. But you needn't settle for that. To pick something different, go to *Apple menu* → *System Preferences*, select *Desktop & Screen Saver*, and then

click the *Screen Saver* tab. You'll find a lot of fun options to explore here, such as "Word of the Day." If you're a music fan, though, try the iTunes Artwork screensaver, which displays a collage of random album covers from your iTunes library.

Scroll through the list of options in the left-hand column. When you see *iTunes Artwork*, click it, and then click *Screen Saver Options*. You'll have the option to choose the number of album-cover rows and the "delay" (in seconds). By default the delay is set to 2 seconds, meaning that every 2 seconds one of the album covers will flip to expose a new cover.

Click in the Preview section of the preference pane to see the screensaver in action. You'll see the different albums changing at random, one at a time. As a bonus, if you spot an album you want to play, you can hover your cursor over its artwork and click to start the music.

2. Change Your Wallpaper... All Day Long

Changing your Mac's wallpaper—the image or background color on your Desktop—is easy. To do so, first open *System Preferences* (from the Apple menu or the Dock) and click *Desktop & Screen Saver*. Click

the *Desktop* tab, and then you can choose an image from a number of folders, or from your iPhoto albums.

But one setting will make your Desktop a lot more interesting: At the bottom of the window, select *Change picture*, and choose a frequency—say, every 5 seconds, every day, or when waking from sleep. To make the image unpredictable, select the *Random order* option. Now you'll never know which photo will come up, and your Desktop will be a source of surprise.

3. Mix It Up With Emoji in File and Folder Names

Emoji are small graphics that work like fonts. You might have seen these little faces, animals, and other images pop up in text messages or tweets. But you may not realize that you can use them in your file and folder names too.

To change an item's name and add an emoji character to it, first select a file or folder in the Finder, and then press <Return> or <Enter>. This action will highlight the item's name. Next, choose *Edit* → *Special Characters*, or press ⌘-<Control>-<Space>. At once a pop-up palette will appear; click any of the icons at the bottom of the palette. The clock icon shows characters that you've recently used; the others sort special characters—including emoji—by category.

Browse through people (smiley faces and more), nature (including cute little animals and flowers), objects (such as food items and sports balls), places (like buildings, vehicles, and road signs), and symbols (for instance, from the zodiac), to find one you like. Click an emoji character to add it to a file or folder name. You can type normal letters before or after the graphic. Emoji will make your file and folder names stand out, and they certainly won't suffer from drabness.

4. Spice Up Folders With Custom Icons

Are you tired of all those boring blue folders in the Finder? Change them. You can use almost any graphic—a photo of your child or of a pet, album art featuring a favorite band, or almost any other graphic—as a folder icon.



Background Surprise Bring an element of appealing unpredictability to your ultrareliable Mac by making the system's Desktop wallpaper change randomly throughout the day.

You can search Google for nice images to use; but if they're too large, they'll be hard to recognize as icons. Try downloading art designed to serve as folder icons—for instance, something from InterfaceLift (go.macworld.com/interfacelift) or Icon-Archive (go.macworld.com/iconarchive).

Double-click a picture to open it in Preview, or open it in your favorite image editor. If you want to crop it, drag the crosshair cursor over the picture, and then choose *Tools* → *Crop*, or press ⌘-K. You might want to crop the picture to a square so that it will look more balanced as an icon. To do so, press the <Shift> key while dragging the crosshair cursor.

Next, press ⌘-A to select the picture, and press ⌘-C to copy it. In the Finder, look for the folder you want to embellish with the icon. Select it and press ⌘-I to display its Info window. Click the small blue folder icon at the Info window's top-left corner. Press ⌘-V to paste your picture over the standard folder icon, and close the Info window. The folder will henceforth appear sporting its fancy new icon.

Reader Suggestions

"Something that is useful as well as attractive is Simon Barnett's free SideEffects (go.macworld.com/sideeffects), which restores color and custom icons to the Finder window sidebar in OS X 10.7, 8, and 9. If you actually use the sidebar for navigation, as I do, Apple's default gray UI is a major step backwards in usability."
—Whitedog

"I like 45RPM Software's free USBleat (go.macworld.com/usbleat). It makes silly, customizable noises sound whenever you plug a USB device into your Mac and has the added benefit of making it very easy to get extended information about the device."—VMSZea/ot

iCloud Backup Tricks for the iPhone and iPad

Make sure you have copies of important data in the cloud.

BY KIRK McELHEARN

You can back your iPad or iPhone up to your computer using iTunes, or you can back it up to Apple's iCloud (www.icloud.com). If you choose the latter course, the device backs up whenever you're connected to a Wi-Fi network.

But iCloud provides just 5GB of free storage to cover all devices associated with your Apple ID, so it's easy to run out of space. Here are some tips for optimizing your iPhone and iPad backups.

Turn On iCloud Backups

To back up an iOS device to iCloud, you must first turn on this feature.

Back up from a Mac: From iTunes, with the device connected to your Mac, click first the device's name, and then the *Summary* tab. In the Backups section, under Automatically Back Up, select the *iCloud* option. I recommend that you check *Encrypt iPhone backup*, since this process will also store your passwords; you'll need to enter a password to do this.

Back up from an iPhone or iPad: On your iOS device, go to *Settings* → *iCloud* → *Storage & Backup*, and then toggle the *iCloud Backup* switch on. When plugged in, locked, and connected to Wi-Fi, your device will back up Camera Roll, accounts, documents, and settings content automatically.

Back up manually: Tap *Back Up Now* below the toggle switch; your iOS device will back up to iCloud via Wi-Fi.

If you don't back up your device for 180 days or more, Apple warns, the company will delete the device's iCloud backup files.

Manage Your Backups

On an iOS device, iCloud automatically backs up the following items: photos and videos in your Camera Roll; device settings; app data; home screen and app organization; iMessage, text (SMS), and MMS mes-

sages; ringtones; and Visual Voicemail.

Apple also stores the most recent 1000 photos from your Photo Stream, if that iCloud feature is turned on. (Go to *Settings* → *iCloud* → *Photos* and then toggle *My Photo Stream*.) These images don't count against your storage quota, but they will remain in iCloud storage for only 30 days, since you're expected to download them to your computer. Set everything up right and this will happen automatically; read "Up and Running With Photo Stream" (go.macworld.com/uprun) to learn the basics.

Note that your device won't back up any media. Apple says that iOS devices back up "purchased music, movies, TV shows, apps, and books," but what iCloud actually saves are links to those items in the iTunes Store, App Store, and iBookstore. None of that counts against your iCloud storage.

If you have to restore your iOS device from an iCloud backup, you'll redownload media items from their respective stores. This saves space but leaves you without backups of nonpurchased items, unless you have them in your Mac's iTunes library.

Ax Unneeded App Backups

Since iCloud storage is limited, it pays to be choosy about what your device backs up. On your iPhone or iPad, tap *Settings* → *General* → *Usage* and then scroll down to *Manage Storage*. All the devices associated with your Apple ID will appear here. Tap the one you're interested in to see the date of its latest backup as well as the



Be Picky Can you download a digital magazine again? Is an app's data backed up to Dropbox already? If so, toggle off its iCloud backup here.

backup's size. In the Backup Options area, you can use the toggle switches to turn off backups for individual apps. Scroll down the list, tap *Show All Apps*, and turn off any apps that you don't need backed up—such as apps that sync data to Dropbox or some other cloud service.

For example, The Loop Magazine takes up 24MB of my iCloud storage. Turning that off saves about 10 percent of my total backup. And since I can easily redownload issues, I don't need to back them up at all.

Back Up Wisely

iCloud backups are great, and they can save your bacon in an emergency. If you use too much storage, you can always buy more: An additional 10GB costs \$20 per year; 20GB more costs \$40 per year; and 50GB more costs \$100 per year. But first check to see if you can trim some fat.

If you have to restore your iOS device from an iCloud backup, you'll redownload media items from their stores.

MacMania 17



British Isles, June 13th – 23rd, 2014

InsightCruises.com/Mac-17



Cruise prices vary from \$1,649 for an Interior Stateroom to \$6,499 for a Royal Suite, per person. Port charges are \$299. Gratuities are \$150 per person. Cruise pricing is subject to change.

JOE KISSELL

- When the Chip Hits the Fan
- Think Like a Mac Geek

DON McALLISTER

- 10 Alfred Workflows That Will Change Your Life!
- Incredible Apps for iPhones and iPads

BEBO WHITE

- Big Data and Open Data
- The Real Future of Online Social Media on Education

BOB LeVITUS

- Master Your iPad
- Master Your iPhone

CHRIS MARQUARDT

- Photo 101
- Photo 201



SEMINARS

The conference fee is \$1,275 and includes fourteen (14) 60- to 90-minute seminars. Seminars are only offered when we're at sea between the hours of 8:30am and 7:30pm.

For a full listing of seminars visit InsightCruises.com/Mac17-seminars

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Set Up Port Forwarding on Your Mac

BY DAN MOREN

Say you want to have a *Mine-craft* server that's available to your friends over the Internet, or you want to screen-share with a Mac on your home network while you're on the road. If you've ever tried to set up one of these types of services, you may have encountered the rather arcane term *port forwarding*. Port forwarding lets people outside your local network access a service on one of your home machines by forwarding specific traffic to that machine. Think of it as creating a rule in your Mail client to forward email from specific senders to a different address.

Technologies do exist to automate port forwarding, but they aren't always compatible, so it helps to know exactly how to configure the process manually.

I'm going to show you how to forward a port to your Mac using an AirPort base station. (Different types of routers have different interfaces, but the principle remains the same. PortForward.com is a good resource for instructions.)

Getting Started

First things first: Find the port number that you need to forward to. For this example, I'm using a free open-source app called MapTool (go.macworld.com/maptool),

which lets me play online role-playing games with my friends. I know from its server configuration screen that it expects incoming traffic on port 51234.

Launch AirPort Utility (located in your /Applications/Utilities folder), select the relevant router, and click *Edit*. The port forwarding section is listed under the *Network* tab and labeled *Port Settings*. To create a new forwarding rule, click the plus (+) button. The following sheet might look daunting, but it's fairly straightforward.

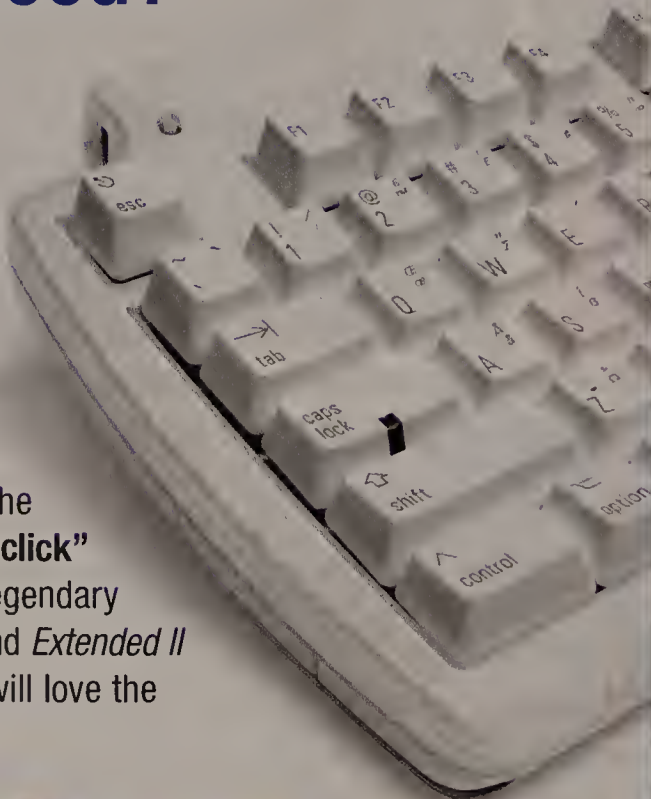
Port forwarding lets people outside your local network access a service on one of your home machines by forwarding specific traffic to that machine.

Remember when typing
felt good?

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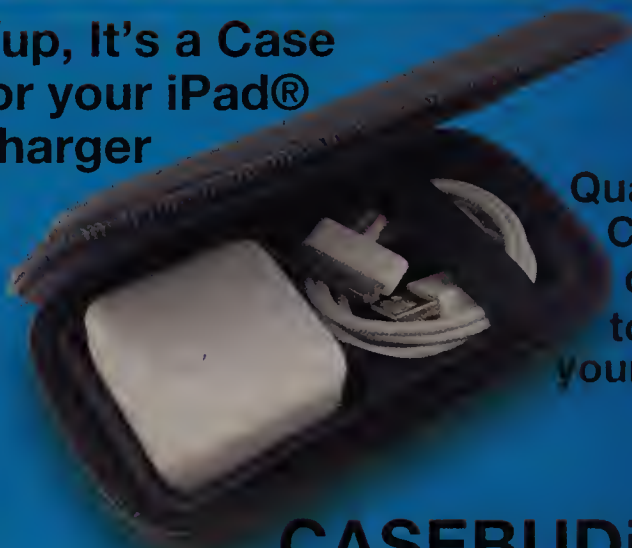
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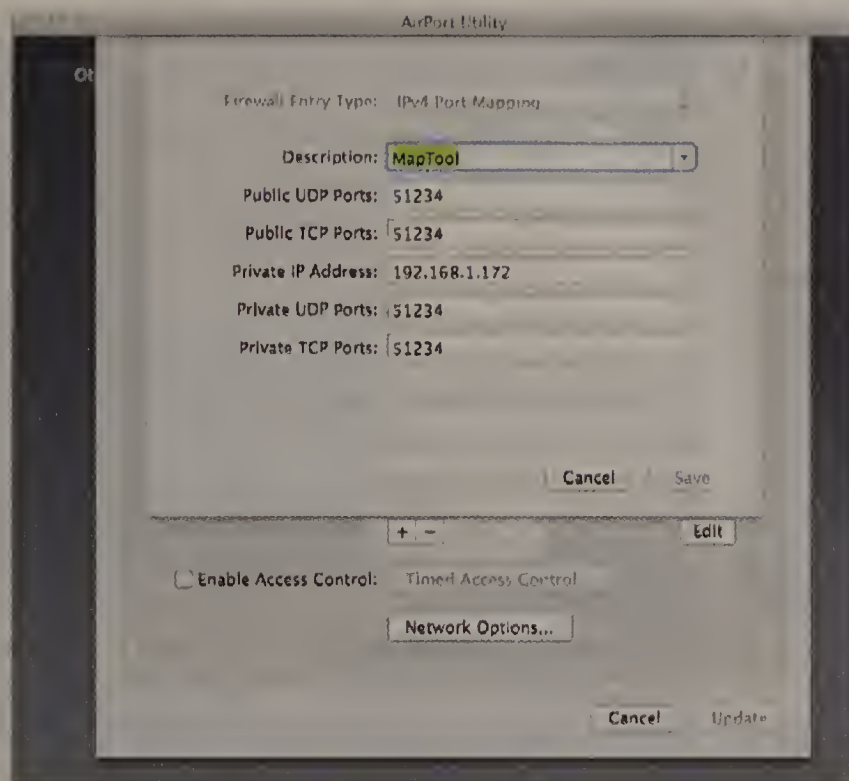
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For the description, enter the name of the service—here, **MapTool**. The public ports are the ports that friends will enter when they want to access this server. To simplify my explanation, I'm using the same port number for both the public and the private connections, but you can use a different public-facing number if you need to. *UDP* and *TCP* are two different types of networking protocol; if in doubt, enter the same information for both.

By default, AirPort Utility fills in the IP address of the machine you're using as the address of the computer to which you want to forward traffic. However, you can enter the IP address of any machine on your network in its place. The private port number to enter is the port that we looked up at the beginning: **51234**.



Heading to Port
Filling in the relevant fields of the AirPort Utility for port forwarding is easy.

Finishing Up

Once you've filled in all of the data, click *Update* and you're good to go. In my case, my friends can access my server at my

external IP address and the port number that I specified. (To find your external IP address, it's often quickest to visit a site such as Whatismyip.com.) To make things

even easier, I could use a dynamic DNS setup to replace the external IP address with a more human-friendly domain name—but that's a tip for another time.

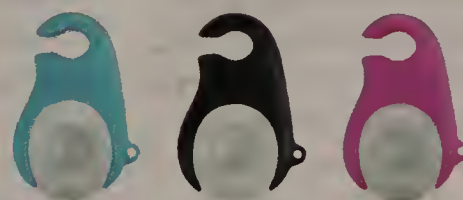
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Reviews

Hardware and Software for All Your Business Needs



Hardware

My Passport Slim

★★★★; \$89; Western Digital; www.wd.com

The My Passport Slim isn't flashy, in any sense of the word. In fact, its most distinguishing feature may be its lack of distinguishing features. It's a USB 3.0 bus-powered portable drive built around a standard rotational hard drive with a healthy 1TB of storage capacity. Western Digital announced a version with a more noteworthy 2TB of storage capacity, but that model is not yet shipping.

With read and write speeds hovering at around 100 MBps, the My Passport Slim didn't break any performance records, but it is fast enough for incremental backups.

The drive ships formatted as NTFS and comes with WD Smartware Pro for Windows, which offers automated backups and even backups to cloud services such as Dropbox. You can easily reformat the My Passport Slim as HFS+ for use with Macs and OS X's Time Machine backup application.

The My Passport Slim isn't the fastest, cheapest, or

thinnest portable hard drive around. But it offers acceptable speed and respectable storage capacity at a reasonable price.—JAMES GALBRAITH

Ergotron WorkFit-A Sit-Stand Workstation

★★★★; \$649; Ergotron; www.ergotron.com

Ergotron's WorkFit-A Sit-Stand Workstation for Apple can affix itself to an existing desk, so you won't have to replace your desk or modify it with motorized legs, unless your desk is extremely thick. The WorkFit-A I tried is designed for Apple's current iMac, Thunderbolt Display, and Cinema Displays. It works with many but not all older iMacs and displays as well. Ergotron has a compatibility guide on its website.

To use the WorkFit-A, your desk can't extend beyond 31.5 inches, and the desktop can't be thicker than 2.56 inches. If your desk has a back, you may not find a spot to mount the workstation, but you can set it up in a grommet hole, if your desk has one or if you cut one.

The unit's most bothersome characteristic is that the monitor

jiggles as you type. It's easy to ignore at first, but after I used the stand for a few weeks, the wiggle in the arm bugged me enough that I decided to stop using it. Ergotron's forum has a post by a customer looking for a fix, and the advice was "get used to the bounce" or buy the \$699 WorkFit-D desk.

Still, the WorkFit-A has such great features as an adjustable tilt for the keyboard, and the ability to swing the arm into a wide range of positions. The workstation's design accommodates curved desks easily, and you can swivel the WorkFit-A through a full 180 degrees. The entire platform can tilt a bit, too.

The Ergotron WorkFit-A is a good standing desk, if you can get past the jiggling monitor that comes with typing. At \$649 it's a significant investment, so be sure to look into other standing-desk options if you can, including motorized table legs. If you

can't make any physical modifications to your current work surface, however, you may find that the WorkFit-A is a viable option for a standing desk.

—ALBERT FILICE



Software

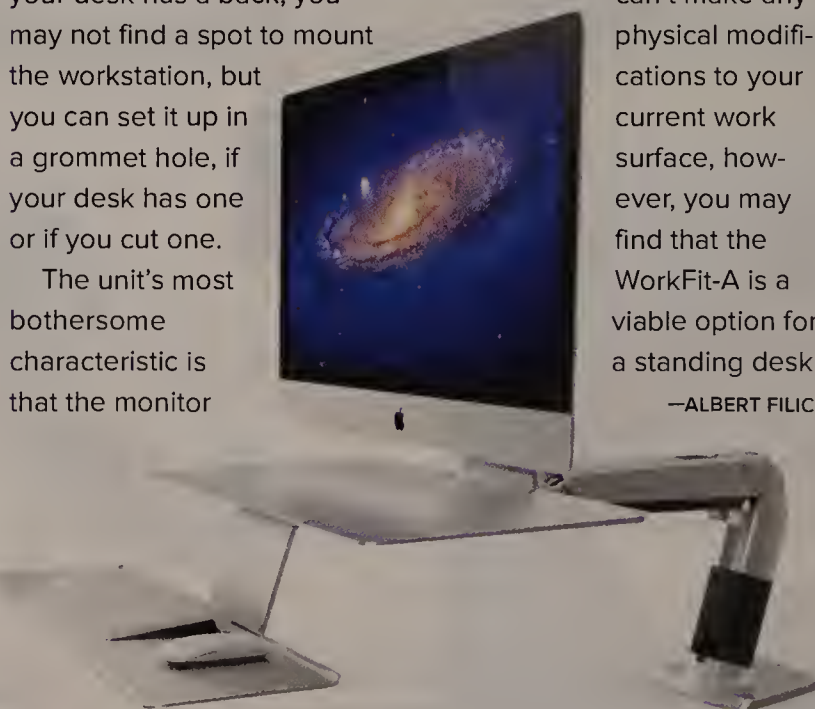
VIPorbit

★★★★; \$50; VIPorbit Software; www.viporbit.com

VIPorbit is designed to help you track all of your relationships, whether personal, social, or business-related.

The VIPorbit universe consists of a free iPhone app, a \$20 iPad app (a limited version is free to download, but you have to pay to use the full iPad version) and a \$50 Mac app. The apps link via the free VIPsync service, which synchronizes any changes you make using your devices: Once your devices are linked and syncing, a change you make on one device will sync across all your other connected devices.

When setting up the app on your Mac, you can enter your contact data manually or import it from Apple's Contacts app, Skype, Facebook, Twitter, LinkedIn, and Google. Thereafter, if any contacts are duplicated across different sources, you can use VIPorbit's merge tool to combine the data from each source. The merge tool compares information from each source and allows you to



choose the most appropriate.

Some features in the app behaved inconsistently. Manually adding Twitter contacts by typing their @name worked without a hitch, but trying the same thing with Facebook contacts didn't work at all.

The software logs anything you do with a contact in VIPorbit, from sending an email message to making a phone call to scheduling a meeting. You can edit or update these log files, and add your own notes to them detailing what you've done with the contacts in your database.

A feature called VIPLinks lets you link contacts within VIPorbit to other contacts—for example, to other people in an organization when the person you're calling isn't available.

Another excellent feature is Orbits—organized contexts for contacts, which can be as specific or general (or as permanent or temporary) as you like.

VIPorbit's Calendar tool can read any information you create in Apple's Calendar app, and it updates the moment you add a new event in Apple's Calendar, though it doesn't sync any data created or edited in VIPorbit to the original sources.

The app is designed to work as a stand-alone application with its own to-dos, meetings, and contact information. As a result, if you create a calendar event in VIPorbit, it will not appear in Apple's Calendar.

VIPorbit is an excellent first-generation relationship management tool that makes it easy to keep your fingers on your crucial personal and business contacts. Though I encountered occasional crashes, overall VIPorbit did a fine job of managing my contacts.—JEFFERY BATTERSBY



FileMaker 13

★★★★; \$329 (Pro), \$549 (Pro Advanced); FileMaker; www.filemaker.com

FileMaker WebDirect, the marquee feature of the new FileMaker 13 database platform, lets you use FileMaker through an HTML5-compliant browser. Databases you access via the Web use an interface mirroring the one the desktop app uses. Changes made through the Web update to the FileMaker database in real time, so you can see new information regardless of which client makes the updates. At release, FileMaker 13 supports desktop browsers only; mobile browser support will come later.

FileMaker 12 introduced themes—customizable templates with distinctive colors, buttons, fonts, and borders. FileMaker 13 offers more than 50 themes, and to give your database a uniform look, it introduces styles, for changing the look of objects all at once.

On the iOS front, FileMaker Go adopts more iOS behaviors, including pop-overs, slide controls, and gesture support. You can now use the iPhone's and iPad's built-in cameras to scan bar codes, and FileMaker Go supports seven different keyboard types.

Monthly FileMaker subscriptions cost \$9 for Pro 13, \$15 for Pro Advanced 13, and \$29 for Server 13. Traditional software licenses run \$329 (\$179 upgrade) for Pro 13, \$549 (\$299 upgrade) for Pro Advanced 13, and \$1044 (\$528 upgrade) for Server 13. FileMaker Go for iOS is free.

—ROMAN LOYOLA

QuickBooks for Mac 2014

★★★★; \$250; Intuit; www.intuit.com

QuickBooks for Mac 2014 offers a number of small new improvements, but not file-level compatibility between the Mac and Windows versions of the software.

QuickBooks for Mac 2014 allows you to import journal entries, which are essentially the debit and credit information for every transaction you create. This feature lets your accountant alter your data (using QuickBooks for Accounts) as you continue using QuickBooks. When your accountant is done updating your data, you simply import the journal information.

The software's flowchart-interface Home Page has a lighter color, but the tools are

unchanged except for a useful new Snapshot feature, which aggregates all your company information in a single view for a clear overview of your business's current financial health. A small, colored header at the top of the Snapshot displays a list of your open estimates, unbilled time, open invoices, and overdue invoices, plus info on invoices paid in the previous 90 days. Below this bar are graphs and other details about your account balances, income and expense breakdowns, and accounts payable, and comparisons of year-over-year income and expenses.

Another useful new feature is a tool called Set Up and Go, which provides helpful video overviews of how to get



started with QuickBooks' most-used features.

QuickBooks remains a strong business accounting app that will help you keep an eye on your business. Nope, it still has no cross-platform compatibility with the Windows app—so if that's something you want, you must look elsewhere to satisfy your accounting needs. Otherwise, QuickBooks for Mac 2014 should help your business stay on solid financial ground.—JEFFERY BATTERSBY

Playlist

Everything You Need to Know About iPods, iTunes, and Mac-Based Entertainment

Ask the iTunes Guy

Print an iOS apps list, choose an iTunes controller, and more.

BY KIRK MCELHEARN

Q&A

In this installment of *Ask the iTunes Guy*, I address how to get a list of apps on an iOS device, offer suggestions for iTunes controllers, and show some tagging tricks for multidisc sets.

Q: I have a lot of apps in my iTunes library that I no longer need, and I'd like to clean them out. How can I create a list of the apps on each of my two iOS devices, combine the lists, and toss out anything not on them?

A: You can see all the apps installed on a given iOS device in *Settings* → *General* → *Usage*—but I don't think that's what you want. I can think of two ways to generate a list to determine which apps you can delete. The first method is to back up your iOS devices; if you have them set to back up to iCloud, you need to do a backup to your Mac. Next, in the Finder, choose *Go* → *Go to Folder* and enter `~/Library/Application Support/MobileSync/Backup` (with no letterspaces on either side of each slash). In that folder you'll see other folders with long alphanumeric names; there should be one for each of your iOS devices. Look for an `info.plist` file inside one of these folders.

Copy that file to your desktop and open it with a text editor like Apple's TextEdit. Near the top of the file, you'll see something like this, showing your device's name:



With a simple key press, I can play or pause music, change the volume, display a bezel showing what's playing, apply ratings, and more.

```
<key>Device Name</key>
<string>China Cat Sunflower
</string>
```

And a bit lower, under Installed Applications, you'll see something like this:

```
<string>com.agilebits.onepass-
word-ios</string>
<string>com.apple.itunesu
</string>
<string>com.imdb.imdb</string>
<string>org.wordpress</string>
<string>com.google.Maps
</string>
```

Each of these entries gives you an idea of the app's name, though it may not be

the exact name of the app. You can get a similar list from your second iOS device, compare them, and then compare both lists to the apps in your iTunes library.

Alternatively you can work in the opposite direction. Go to your Apps library in iTunes, click *List* to display all of the apps, and click the *Name* header in the iTunes window to sort them by name. To get a list of all your apps, choose *File* → *Print*, and select *Song list* from the Print section in the dialog box that appears.

You can either print this list or make a PDF; and you can go through the list, comparing it with what's on your iOS devices until you've found what you're not using. You can then go back and delete the unused apps from iTunes.

Q: What do you recommend as a controller for iTunes that sits in the menu bar? I know I can control iTunes from the Dock or MiniPlayer, but a menu-bar option wouldn't take up any screen space. Suggestions?

A: One app that meets your needs is It's About Time Products' Controls+ (go.macworld.com/controls+), which is regularly priced at \$5 but sometimes on sale for \$2. In addition to giving you control over iTunes, the app provides quick access to some display settings, and also provides a stopwatch and timer. Its iTunes controls are a bit limited, but it may be enough for you.

However, I prefer using my keyboard to control iTunes playback. Yellow Mug Software's free SizzlingKeys (a \$5 pro version includes additional features; go.macworld.com/sizzling) lets me do just that. With a simple key press, I can play or pause music, change the volume, display a bezel showing what's playing, apply ratings, and more.

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Q: I have a question about tagging multidisc albums in iTunes. Setting disc numbers is easy to do, and it lines up albums with multiple discs perfectly for playback or for adding to playlists. But I have many multidisc albums that also give a title to each disc. Especially in classical music, this happens a lot. How can I tag a multidisc album with both the disc number and the disc title?

A: iTunes takes disc numbers into account only when more than one disc has the exact same title. So what I think you want to do is find a way to group related discs from multidisc sets so they show up together in iTunes.

Here's how I do it. I set album titles for multidisc sets to be the same at the beginning, then I add a number, and then I add other information. For example, I have a 60-CD set of Leonard Bernstein's symphony recordings with the New York Philharmonic on Columbia and Sony. So I've tagged the first few CDs with album names as follows:

**Bernstein Symphony Edition 1—
Beethoven 1 / Beethoven 3**

**Bernstein Symphony Edition 2—
Beethoven 2 / Beethoven 7**

**Bernstein Symphony Edition 3—
Beethoven 4 / Beethoven 5**

With these names, iTunes groups the albums together in an Album list, yet I still have enough unique information to be able to tell them apart.

Q: Is there any way to delete all songs downloaded from iTunes Match to my iPhone and iPad aside from one song at a time? When I'm running out of space on those iOS devices, I'd like to be able to clear the music all at once.

A: You can't mass-delete iTunes Match songs on iOS devices. You can swipe a single song to the left to display a Delete button, and press that to delete the track. (My iOS devices automatically remove songs when I need room, and when I have not listened to specific songs in a while, but what prompts this behavior isn't clear.)

You have two ways to bulk-delete music on an iOS device. The first—if you subscribe to iTunes Match—is to go to *Settings* → *Music*, and toggle off *iTunes Match*. Wait a minute, and then toggle it back on. This will delete all your music.

The second way is to go to *Settings* → *General* → *Usage*, tap *Music*, and then tap *Edit*. You'll see a red circle with a line in it to the left of *All Music*. Tap this and tap *Delete* to clear the music from the device.

Q: I buy movies and download the digital copies into iTunes. Normally the download runs smoothly. However, I have a couple of movies that don't show the poster in iTunes. I have tried right-clicking and downloading artwork but that didn't work. How can I fix this?

A: As far as I know, the Get Album Artwork menu item you're talking about works only with music. For movies, you must find your own cover art.



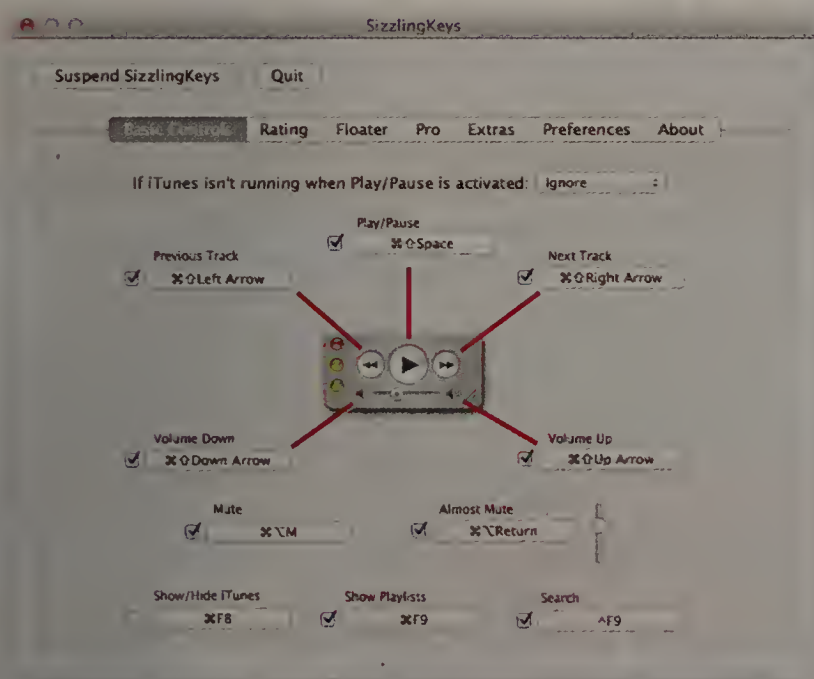
Menu Bar Maestro Controls+ is a nifty menu bar controller for iTunes that also includes other features such as a stopwatch and timer.

I use Google whenever I need artwork for movies. Just do a search for the movie, and click *Images* to find the right poster art. Make sure to download a file large enough so it displays well on your TV—I generally choose at least 600 pixels wide.

Select the movie, press ⌘-I, and then click the *Artwork* tab. Drag the file you've downloaded to that tab, and click OK. iTunes will add the artwork to the movie.

Q: Like many other Canadians who were champing at the bit back when the iTunes Store was U.S.-only, I used to buy American iTunes gift cards and then redeem them to purchase some music. Later, when the Canadian store came out, I created a second account for Canadian purchases. At the time, having two accounts was no big deal, but now I want to use iTunes Match, and I want to be able to get my whole collection into the system. What is the best way to do this?

A: It's pretty simple. First, make sure that you have gathered all of the music files from your U.S. iTunes Match account on



Fingertip Control SizzlingKeys' preferences window identifies the iTunes processes you can control from your keyboard.

your Mac. Select all the music, right-click, and choose *Download*; then wait until everything has downloaded. Scroll through your library to confirm that all the music is there, sign out of the U.S. iTunes Store, and sign in to the Canadian store. Turn on iTunes Match, and let iTunes do its work while it matches and uploads music.

Your music will stay on iTunes Match in the U.S. store until the subscription ends.

Q: When I sync my iPhone 5 and new iPad Air, I always have more than 4GB of “Other” in the sync display bar, no matter what I do with the devices. I’ve restored them, both as new and from backup. I’ve tried most of the dozens of supposed fixes I’ve found on the Internet. I surely can’t have that much in normal catch-all stuff—contacts, text attachments, and so on—so I’m sure there must be some corrupted data somewhere; but so far I’ve been unable to fix it. Can you help?

A: I get this question a lot, and wish I had an answer. Over the years I have also tried some of the many suggestions people offer in Apple’s support forums. None of them work reliably, and I think there’s a force from another galaxy that’s deliberately changing this “Other” amount to confuse us humans.

Apple defines “Other” as: “Everything else, such as contacts, calendars, messages, emails and their attachments, Safari Offline Reading List, settings, and other system resources.” It’s normal that there be some “Other” space used, but I have no idea why, in some cases, this can be a huge amount of space.

Apple says that “Orphaned files may remain on your iOS device if it is physically disconnected while syncing music, podcasts, videos, or photos. This can prevent iTunes from syncing the iOS device on

Unknown Other The sync display bar says my 32GB iPad Air has 2.1GB of ‘Other’ data on it.

subsequent sync sessions. When this happens, the Capacity indicator in iTunes may report a large amount of ‘Other’ disk usage for the iOS device.” The company offers a suggestion for resolving the problem on one of its support pages (go.macworld.com/otherspace), but I’ve not had success with this. (I just tried it with my iPad, and ended up with slightly more “Other” space used after resyncing.)

The only thing I’ve ever found that fixes the problem is restoring an iOS device.

Q: After I upgraded my iPhone, I discovered that the ringtone I had purchased and set on the phone had been replaced with a generic one. I can’t find my original ringtone. When

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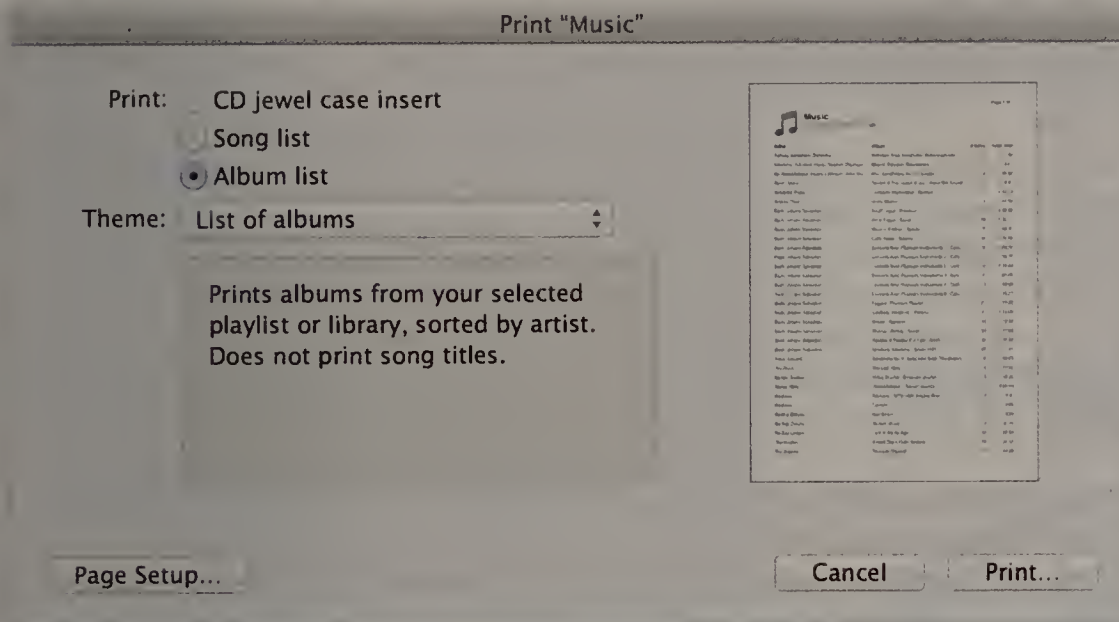
Macworld

I try to repurchase it, I'm told that it's already purchased, but where is it?

A: Chances are, you don't have the Tones library displayed in iTunes. To bring that

library out into the open where you can see it, first choose *iTunes → Preferences*, and make sure that you're in the General Preferences section; then check *Tones* in the Show section.

Next, connect your iPhone to iTunes, and click *iPhone*. When you do, you should see a *Tones* tab at the top of the window. Click this, and make sure you've checked *Sync Tones*. After you next sync, everything should be back to normal (though you'll probably need to set your preferred ringtone on your iPhone again).



Know What You've Got You can use iTunes to print a list of all your albums that you can carry around when you're looking for more music to fill in the gaps in your collection.

Q: Is there a way to print only a list of your albums on iTunes? I don't want the 18-page listing of all my songs. I want to take the list with me to used bookstores to make sure I don't duplicate my purchases.

A: iTunes doesn't have a lot of printing features, but luckily what you're asking for is among the ones available. In your Music library, choose *File → Print*. Click *Album list*, then select *List of albums* from the Theme pop-up menu. Click *Print*, and either print out the list or create a PDF from the PDF menu in the Print dialog box.

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TEMPERED GLASS

Roku TV Beats Apple to the Big Screen

BY SUSIE OCHS AND AGAM SHAH

People have been waiting for Apple to transform its Apple TV set-top box into an actual Apple television set for years. Well, Roku just beat Apple to the punch.

At January's International CES exposition in Las Vegas, Roku announced Roku TV—Roku's streaming service built into smart TVs, starting with an array of 32- to 55-inch models from Hisense and TCL.

Like a Roku set-top box, these sets will offer more than 31,000 movies and 1200 channels of streaming content. Users can navigate the whole thing with a simplified 20-button remote control, or they can use the Roku apps for iOS and Android.

Though final prices, specs, and release dates remain unannounced, Roku CEO Anthony Wood says he doesn't expect the TVs to be expensive. Both Hisense and TCL showed their models at CES,

and the TVs are slated to ship in fall 2014 in the United States and Canada. Wood says that a total of six manufacturers will be releasing Roku TV models.

Turning on a Roku TV will bring you directly to the familiar Roku home screen, but the TVs will have the usual connectors (such as HDMI) for connecting to cable boxes and game consoles. The remote will resemble the one for a Roku set-top box, with additional buttons for things like channel and volume up/down.

The Stream Goes On

Last year Roku shipped about 8 million set-top boxes, according to Wood, and the company doesn't plan on stopping. But rolling out smart TVs with Hisense and TCL is a win-win-win: Customers are already familiar with the Roku interface and service; plenty of content creators—

from Netflix and Hulu to smaller niche channels—already use the Roku platform; and Hisense and TCL, unlike such bigger players in the television sector as Samsung and Sony, aren't already invested in their own smart TV ecosystems.

Now it's up to Apple to make its push. Roku's platform already has more content, and Roku's partnerships with those particular companies could make it tough for Apple to compete on price. Apple is known for high-quality displays, from the Retina screens on its MacBook Pro line to the \$999 27-inch (non-Retina) Thunderbolt display. In contrast, current TVs from Hisense and TCL are generally priced below \$1000. No real comparison is possible yet, since Apple doesn't make an actual television set, but the impending fight for the living room just got more interesting. Pass the popcorn.



Built-in Roku A new Hisense television displays the Roku TV home screen.

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iOS-Controlled Lamp Adjusts to Fit Your Mood

BY PHILIP MICHAELS

As was readily apparent from the multitude of offerings on display at the International CES showcase in January, plenty of companies are coming up with innovative ways to enable you to control the lighting in a room from your smartphone. But the people who make Holi think you should be able to set a mood from your phone as well.

Holi is a uniquely shaped lamp. It's essentially a framelike aluminum square with rounded corners that, instead of featuring a single bulb, contains 18 individually controlled LEDs. The design permits the lamp to give off light in a number of different colors and shades.

Exactly what color and intensity of light the Holi displays is up to you, with the help of a mobile app. The app—currently available for iOS, with an Android version due to have arrived by the time you read this—features around 50 different lighting effects, all tailored to specific moods.

Got a party going on? Try the Celebra-

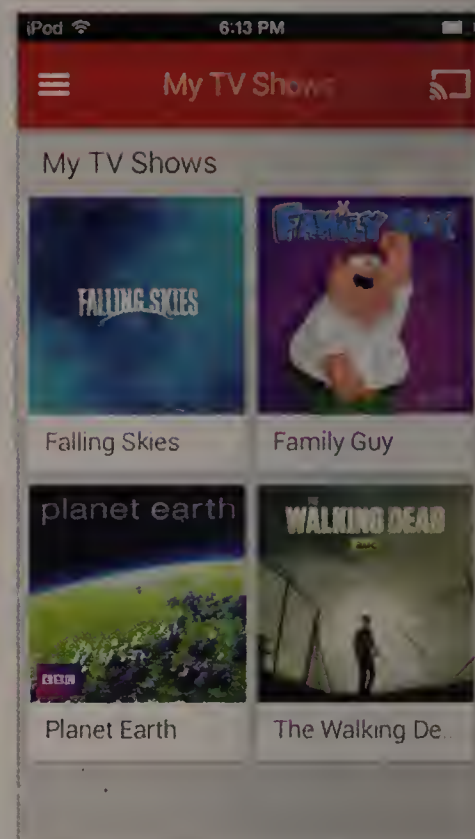
tion setting. Feeling more contemplative? Moonlight seems like a nice option. Or if none of Holi's preset lighting options quite does the trick, you can generate your own setting on a tappable screen that resembles a color wheel. (According to Holi's makers, you can even save a setting if you find one you like.)

The lamp-app combo also has a sound element, with the lamp able to stream the music stored on your device's library over its Bluetooth connection. Its maker says Holi will support Spotify imminently.

The lamp has another appealing feature if you're not exactly a morning person. Holi's settings include a dawn-simulator mode that allows you to wake up naturally, instead of being jarred awake with an alarm. You simply set a time in the app, and the lamp brightens as that time approaches to help you wake up gradually.

Already available in Europe for some time, Holi is set to arrive in the United States in March, carrying a \$199 price tag.

Feeling Blue? You can adjust Holi's lighting with one of the preset effects available in the accompanying mobile app, or you can devise your own setting.



iOS Users Can Access Google Play

BY PHILIP MICHAELS

Google has been on a content kick since it rebranded its Android Marketplace as the Google Play store, including recent forays into content streaming first with the mostly defunct Google TV and then with Chromecast.

Now Google hopes to bring iOS users into the fold with the Google Play Movies & TV app. The app works on iPhone, iPod touch, and iPad devices, but you can't browse the Google Play store directly from it.

Instead, you'll have to add content to your queue from the Google Play site on your browser, at which point you can watch the items on the device of your choice. Google says that you can even use Chromecast to watch Google Play movies and TV shows, though there's no support for the Apple TV.

You can get the Google Play Movies & TV app at the iTunes App Store.

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Create

Using the Web for Video, Graphics, Publishing, Photography, and Other Creative Pursuits

Create a Photo Book With Lightroom 5

Tips and tricks for using the Blurb plug-in to produce a professional-looking photo book.

BY THEANO NIKITAS

Custom photo books are a popular and polished way to show and share your images, whether you aim to create an album of photos for a special occasion, a professional portfolio, or anything in between. Ever since the 2012 partnership between Adobe and Blurb—the company that lets you produce your own hard-copy photo book—Adobe has integrated a Book module with Lightroom, specifically in versions 4 and 5, that lets you print from Blurb. Books can be 20

to 240 pages long (not including covers).

The Book module offers a wealth of options, especially with the new features available in Lightroom 5, but the process of creating a photo book is similar in Lightroom 4. You'll need to set aside a little time for planning, but if you follow the steps below, you can quickly create a basic but attractive photo book that you'll be proud to print.

Step 1: Getting Started

In the *Library* module, open and select the photos you want to include in the book, preferably in sequential order or in thematic

groups. You can always change the order later. Images should be 300 dots per inch.

Switch to the *Book* module. Leave the Book module preferences (*Book* → *Book Preferences*) at the default settings to start with. Your images will automatically fill the pages.

Click *Create Saved Book*. Enter a name for the book in the dialog box and click *OK*. Also check the box labeled *Include only used photos*. The next time you launch Lightroom, you'll be able to open the book again from the *Collections* drop-down menu. To add other photos to the book, go to the *Library* module and then drag and

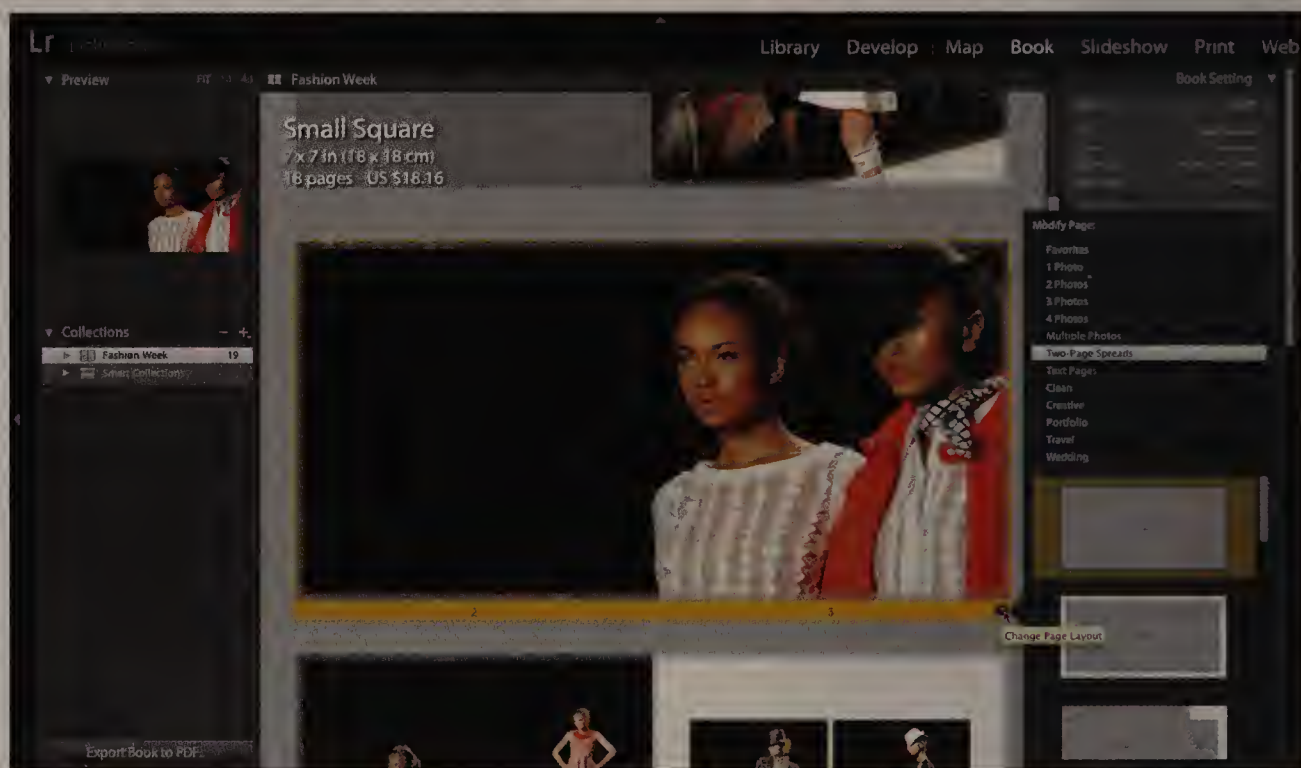
Two-Page Spread You can make a horizontal image fit within a vertical book by choosing a layout with a two-page spread.

drop the photos onto the book name in the *Collections* drop-down menu. Double-click the book name to reopen the book.

Step 2: Set Book Options

In the Book Settings panel, use the drop-down menus to choose how to publish your book: Select *Blurb*, *Small Square*, *Softcover*, and *Premium Lustre* to get a small softcover book with high-quality paper. The new Standard paper option in Lightroom 5 is a less-expensive choice, but it's not as nice as the other papers.

On the logo page, choose *On* to include the Blurb logo and to get a discounted price; or choose *None* to exclude the logo. Below that section, you'll see the estimated



The Book module has a wealth of options, especially with new features in Lightroom 5, but the process of creating a photo book is similar in Lightroom 4.

price of your book (available in several different currencies), which automatically adjusts when you make changes to the book's specifications.

In the Guide panel, check *Show Guides* and also one or more guide options.

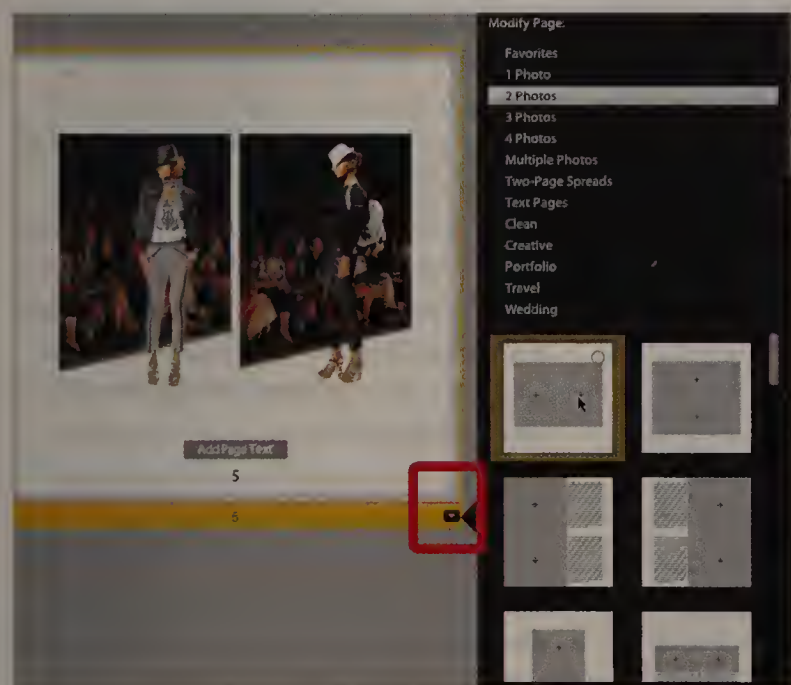
Step 3: Customize Page Layout

Drag and drop pages into the sequential order you prefer. Either choose a preset layout (*Auto Layout panel* → *Preset*) or customize one or more pages. The latter method provides more creative leeway.

To customize a page, you must first click to select an image on that page (<Shift>-click to select multiple photos). Then click the downward-pointing arrow at the lower right, and choose the page layout you want from the *Modify Page* drop-down menu. If you choose a layout that calls for multiple images, drag and drop all the images onto the page.

To remove or add a page, <Control>-click (or right-click) a page and choose *Remove Page* or *Add Blank Page*, respectively; selecting *Add Page* duplicates the layout. You can also save your layout as a Custom Page and apply it to other pages in the Page panel.

Click each image on the page. Resize the photo with the zoom slider and reposition it with the trackpad or mouse so that it lies within the safety zone (indicated by gray lines). You can also use the padding sliders in the Cell panel to further adjust image size and position.



Step 4: Add Text

Check *Photo Text* and *Page Text* in the Text panel and use the Type panel to customize the font, style, color, and opacity. Type captions and page text directly onto the page in the spaces provided.

Step 5: Add, Delete Page Numbers

In the Page panel, check *Page Numbers*. Use the drop-down menu to choose where to place the numbers.

To hide a page number or start the page numbering later in the book, <Control>-click (or right-click) the relevant page and choose the option you want.

Step 6: Add Background

You can add a solid color or graphic background to individual pages or globally.

In the Background panel, check or uncheck *Apply Background Globally*. If you want to use different backgrounds for multiple pages, manually select the pages you want.

Layout Options Click the small arrow at the bottom of the selected page to reveal the page-layout options—with or without text. Various options allow you to resize and place images.

Open From Collections Once you've created a book and populated it with your chosen photos, you can quickly open the book from the Collections drop-down menu.

To add a graphic background, drag and drop a photo (or a JPEG graphic that you created in another program) onto the Drop Photo Here placeholder window and then adjust the background's opacity.

To apply a solid color, check *Background Color* and choose a color swatch.

Step 7: Create a Cover

You get fewer layout options for covers than for individual pages, but most of the previous steps still apply. Click the small arrow on the lower-right corner of the page to choose the cover layout.

If you are creating a hardcover book, with or without a dust jacket, you can add text for the spine. Softcover books do not have this option.

Step 8: Output to Blurb

Select *Send Book to Blurb* (on the lower right of the screen); you will be prompted either to enter your email address and password or to register with Blurb.

Additionally, you can choose from other options, including *Export Book to PDF* (in the lower left of the screen) or *JPEG* (in *Book Settings* → *Book*), but those options are far less satisfying and visually appealing than having your book printed and bound, and ready to send as a gift or to proudly display on your own bookshelf.

Retouch Portrait Photos in Five Easy Steps

Aperture's photo-editing tools let you create alluring photos of family and friends.

BY DERRICK STORY



We seldom have complete control when shooting portraits, but we own our images when we open them in Aperture for editing. In just five easy steps, you can transform a ho-hum snapshot into a framable work of art.

Step 1: Crop as You Like

Nearly every portrait benefits from cropping. By zooming in a bit tighter, we can bring out the subject's personality.

Enable the cropping tool by clicking its icon at the bottom of the screen, or by pressing the C keyboard key. A floating palette appears along with an adjustable grid. Click and drag any of the eight handles of the grid to frame the image.

To constrain the frame's proportions, select the dimensions you want from the Aspect Ratio pop-up menu in the floating

palette. To reposition the grid, click and drag it. Once you've set up the crop to your liking, press <Return> to apply it.

Step 2: Get the Color Right

Improperly balanced skin tones, especially when too cool, can drain the life from your subject. You might not even notice the negative impact that improper color is having until you correct it. Fortunately this task in Aperture is quite simple.

Go to the *Adjustments* tab in the Inspector and find *White Balance*. If it's not there already, you can activate it in the Add Adjustment pop-up menu.

Click the *Auto* button in the White Balance brick. For portraits, Aperture will select the Skin Tone option. If you like the automatic color correction, you're set. If not, adjust the *Warmth* slider until you achieve the desired results.

Banish the Blemish Witness the magic of Aperture's blemish removal tools.

Step 3: Fine-Tune Exposure

Besides establishing a good overall exposure, you'll want to check areas of highlight and shadow. Shiny foreheads and shadowed eyes are common trouble spots.

You can handle most of these adjustments quickly in either the Exposure brick or the Highlights & Shadows brick. Start with the Exposure brick to make sure that the overall image is properly illuminated.

In the Exposure brick, the Black Point slider adjusts the dark tones, Exposure manages the highlights, and Brightness primarily affects the midtones.

To address a specific area, go to *Highlights & Shadows*. (If it's not there already, activate it in the Add Adjustment pop-up menu.) Click the gear icon in the High-



Improperly balanced skin tones, especially when too cool, can drain the life from your subject. You might not even notice the negative impact until you correct it.

lights & Shadows brick and choose *Brush Highlights & Shadows in*. If you want to recover highlights, move the marker on the *Highlights* slider about halfway. You can add more recovery later if you wish.

In the floating palette that appears, choose your brush size and softness, and move the *Strength* marker all the way to the right. To begin “painting” on the area needing work, click and drag. As with any brush adjustment, subtle improvement is better than a heavy-handed fix.

Step 4: Remove Blemishes

Having a pimple suddenly appear on the day of the photo shoot is a photo subject’s nightmare. But you can quickly remove that blemish later on your Mac.

Start by enabling the Retouch brush located at the bottom of the interface next to the red-eye icon: Click the brush and choose *Retouch* from the pop-up menu. Then choose the *Repair* option from the floating palette. Set your brush radius and

Bumper Crop
Compare the cropped portrait on the left with the original framing on the right.

softness, and move the *Opacity* marker all the way to the right. Click the blemish, and Aperture will promptly remove it.

Step 5: Smooth the Skin

You can, if you want, apply skin smoothing to an entire portrait. Generally, though, this step is reserved for fine lines on the forehead and wrinkles around the eyes.

Visual Finesse Aperture provides multiple slider controls for fine-tuning exposure.

Go back to the brush icon at the bottom of the interface. This time, choose *Skin Smoothing* from the pop-up menu. Aperture will add a Skin Smoothing brick to the Adjustments tab of the Inspector, and display a floating palette.

In the brick, set the markers for the *Radius*, *Detail*, and *Intensity* sliders to the midpoint. As is the case with other adjustments, you can always fine-tune these later. In the floating palette, set your brush size and softness to a diameter that allows you to work in tight areas; then move the marker on the *Strength* slider all the way to the right.

Now all you have to do is “paint away” those fine lines by clicking and dragging the mouse pointer on the areas that require work. If the effect is too strong—or is not apparent enough—adjust the *Intensity* slider in the Skin Smoothing brick in the Adjustments tab.

Sit Back and Admire

At this point your portrait should be looking pretty good. You can see how far you’ve come by pressing the M key to see what the original image looked like before you began retouching it.

When you share the picture with the subject, don’t feel the need to discuss the adjustments you make. Just let them enjoy how good they look.



Create Ringtones With GarageBand

Use the tracks in your iTunes library to get a customized ring.

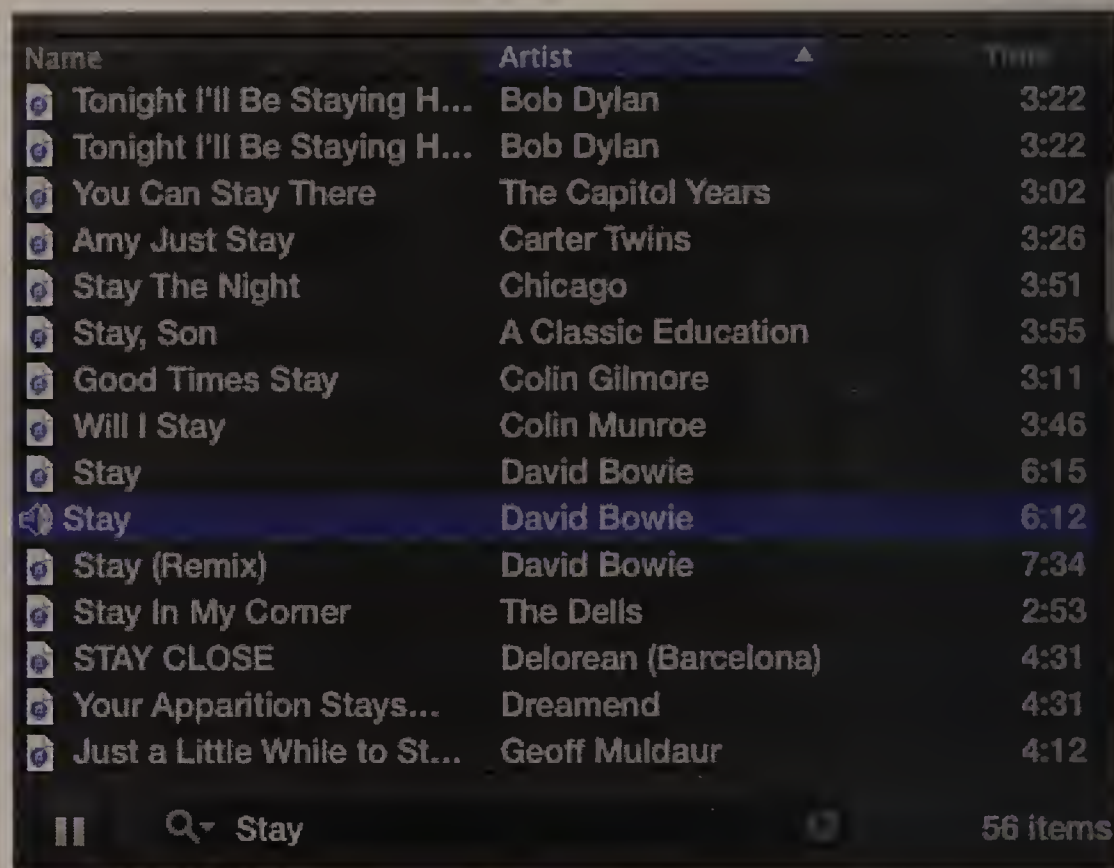
BY CHRISTOPHER BREEN

You needn't be a musician to find uses for GarageBand, Apple's audio and music app. Want to craft a ringtone from a favorite tune? Here's how to do it.

Choose a Track

Launch GarageBand. Select *Ringtone* in the Project chooser, and click the *Choose* button. The main GarageBand window will open. Inside you'll find a single track called Audio 1. The Cycle button will be engaged, and the ruler will bear a yellow bar (denoting the length of the cycled section) stretching for 20 measures. To the right, the Loops pane appears by default.

In the display (which currently shows bars, beats, divisions, and ticks), click the icon depicting a note and metronome, and choose *Time* from the pop-up menu. Drag the right side of the yellow cycle bar so that it ends at 0:40. (Ringtones can be no longer than 40 seconds, so creating a cycle bar of that length shows you exactly how much audio you have to work with.)



In the control bar, click the *Media Browser* button. In the top portion of the resulting pane, select *iTunes*. GarageBand will load a list of your iTunes library's playlists, and it will display the contents of a selected playlist in the bottom half of the Media Browser pane.

You can sort the resulting list by track name, artist, or time by clicking the appropriate column heading. You can also narrow the list by using the Search field at the bottom of the pane, where you can search by All, Artist, Album, Composer, or Song. To preview a track, simply select it and click the *Play* button that appears to the left of the Search field (alternatively, just double-click the track). When you find the correct track, drag it from the list of tracks to the workspace, to the right of Audio 1. The resulting track is brown with a white waveform.

Click *Play* in the control bar, and you'll hear the track. (If you additionally hear a ticking sound, click the purple *Metronome* button to turn it off.)

Favorite Tunes Use up to 40 seconds of a song in your iTunes library for your ringtone.

Edit the Track

If you just want to use the first 40 seconds of the track as a ringtone, you're nearly done. You can split the track and delete everything after the first 40 seconds, but the resulting ringtone may not contain the part of the song that you want to hear. And when it loops on your phone (since these ringtones keep "ringing" until you answer or the call goes to voicemail), it may do so at a musically awkward place.

The best ringtones are edited to within an inch of their digital lives. You have a couple of ways to approach this task.

The first method is to trim the beginning or the end of the track by dragging its bottom edge toward the center of the track (a Trim icon will appear as you hover your cursor over the track's bottom corner). Play the track to the point where you want the ringtone to start—when the vocalist comes in, for instance. Then click the track's bottom-left corner and drag it to the right, to that point. A readout will show you the edge's time position as well as the overall length of the track. Now click somewhere in the middle of the

Ringtones can be no longer than 40 seconds, so creating a cycle bar of that length shows you exactly how much audio you have to work with.

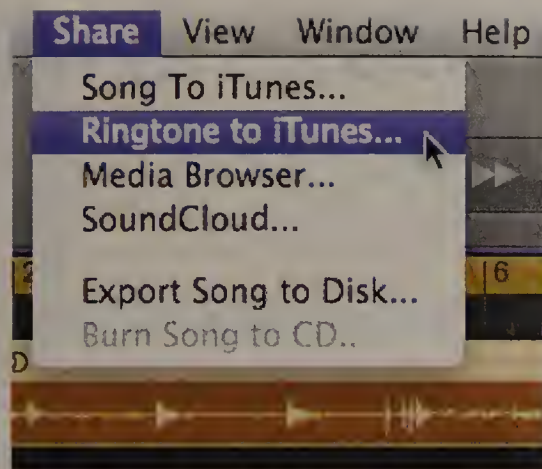
track and drag it to the left so that it starts at 0:00. Then drag the right edge of the track to the left so that it ends somewhere before the 0:40 mark.

Alternatively, you can move the playhead to the point where the ringtone should begin, click the track in the workflow pane, and choose *Edit* → *Split Regions at Playhead* (or press ⌘-T). Click the portion that you don't want to keep (the stuff to the left of the split) and press <Delete>. Move the playhead to where you'd like the ringtone to end, click the track, and once again split the track. Delete the material to the right of the split, and then drag the remaining track to the 0:00 mark. Complete the job by dragging the right edge of the cycle bar so that it aligns with the end of your track.

When cycling is turned on, you'll hear how the ringtone will loop on your phone. If the transition between the end of the track and the beginning sounds abrupt or if there's too much silence between them, adjust the track's length—adding or subtracting content from the end and getting rid of any silence at the beginning. If you get a sense of where the track's beats fall, try to end the track so it plays the last measure's entire complement of beats—most songs have four beats per measure.

Export the Ringtone

Having created the perfect ringtone, you'll want to send it to iTunes. Choose *Share* → *Ringtone to iTunes*. GarageBand will save the ringtone as an M4R file, iTunes will launch, and the ringtone will



Tone Transfer The Share drop-down menu lets you send your completed ringtone to iTunes.

appear under the Tones heading in the Library pane of iTunes.

If your iPhone isn't configured to sync wirelessly, use the sync cable to connect it to your Mac. Drag your ringtone to the iPhone's Tones entry, and click the *Sync* button at the base of the iTunes window. The ringtone will copy to your phone.

To use your creation as a ringtone, tap *Settings* → *Sounds* → *Ringtone* on the iPhone. Your custom tune will be situated at the top of the list of ringtones. Tap it, and your phone will play it when a call comes in. Of course you needn't use it only for ringtones: On the iPhone you can choose it as an alert sound as well.

And that's it.

This isn't the only path for creating ringtones, however. You can use GarageBand for iOS to do the same thing. To learn the steps involved, check out my video "How to Create iOS Ringtones" (go. macworld.com/iosringtones).



Ringtone Time Choose the 'Time' setting to block out the 40-second duration of your ringtone.



BY OWC LARRY | blog.macsales.com

What a Difference a KX Case Makes!

It used to be that in order to really protect an iPhone or iPad, you had to encase it with a thick and bulky case. Many of these bulky cases make it difficult to plug in the charger or make you fumble with little plastic pulls to access the headphone or charging port.

That was before the NuGuard KX cases came onto the scene. Now millions of iPhone and iPad owners can protect their digital devices from the certain doom of accidental drops.

X-Treme Drop Protection

We've had some fun with this case at OWC. We've thrown KX protected devices from the top of our towering 131 foot wind turbine that powers our headquarters in Woodstock, IL. We've tossed more than one iPad down some gnarly stairs. And we've had our fair share of enthusiastic friends make their iDevices survive some pretty fantastic falls – all thanks to the kinetic x-orbing protection that KX cases provide.

The most amazing feat for me is that KX cases provide all this massive drop protection without any of the gigantic bulkiness that other protective cases need in order to provide the same protection. KX cases feel like a normal case. They're thin, light, and make it easy to fit an iPhone in a pocket or take an iPad out and about.

Add the easy-to-install one-piece design, gripping texture, easy access to all the ports and buttons, and you've got one great case for any iPhone 4, 4S, 5, 5C, 5S, iPad Air, and iPad mini.

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See NuGuard KX in action at:

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- www.newertech.com/ipad

Tadaa SLR App Lets You Focus After the Fact

Adjust the focus point of your iPhone photos after shooting them.

BY DAVE JOHNSON

Review

RATING
★★★★½

PRICE
\$2

COMPANY
Menschmaschine
Publishing

URL
www.tadaa.net

Your iPhone is remarkable in many ways, but its camera will never capture photos with the same deliciously shallow depth of field that your digital SLR camera can manage. And unless Apple finds a way to cram a much, much larger sensor into future versions of the phone, that limitation will always be the case. Nevertheless, you can simulate a luxuriant, shallow-depth-of-field effect through software. Tadaa SLR does just that.

Actually, Tadaa doesn't simply permit you to artificially tweak the depth of field; it enables you to change the focus point of the photo. And it does that after you've taken the image, not unlike what you can do with the innovative Lytro camera.

You start Tadaa in camera mode; compose and take your shot. If you want to start with an existing photo, you can alternately choose one from your Camera Roll. The app has a few widgets, designed

some subjects that Tadaa refused to select in their entirety—you can turn off edge detection and do the painting manually. In general, though, the trick is to slightly overpaint your subject so that Tadaa can find the edges.

After that, a slider lets you choose the aperture, which translates into the intensity of the depth-of-field effect. You can vary the effect from nothing (which gives you the deep depth of field the iPhone shoots automatically) to a very blurry background approximating the result you'd get from setting a DSLR to f/2.

Here's where Tadaa distinguishes itself from other blur apps, such as AfterFocus. You can tap anywhere in the image to adjust the focus. Tap the background, for example, and it snaps into focus, simultaneously blurring the foreground objects that you've previously masked. This is a fun feature that lets you explore what a photo would



Tadaa Mask With Tadaa, you paint a mask over the parts of the image you want to be in focus.

Tadaa doesn't simply permit you to artificially tweak the depth of field; it enables you to change the focus point of the photo.

to handle displaying a line-of-thirds grid, switching between a square shot or wide shot, and turning the flash on and off. Tadaa even gives you access to both the front and rear cameras.

After taking the shot, you paint a mask over the particular object that you would like to appear in sharp focus. Tadaa has fairly smart edge detection, so you can just dab with your finger to have the app select the whole subject for you. If that method doesn't work for you—and I did run into

look like if you shot the scene several times, varying the focus in each. Unlike with the Lytro camera, though, you eventually need to make a choice and save the image—you can't continue to interactively change the focus after saving.

Tadaa has another unique tool in its bag of tricks: You can add and tweak *bokeh*. Bokeh can be a difficult concept to wrap your head around; it's the visual quality of the out-of-focus areas of a photo, and it often manifests itself as

glowing blurs around reflective elements in the background. By using a pair of sliders—for highlights and gloss—you can dial in an excellent simulation of bokeh, and get just the amount that you want. If you've ever looked longingly at examples of bokeh in DSLR photography, you'll love fiddling with the bokeh tool in Tadaa; it delivers an effect that you couldn't achieve with an iPhone in the usual way.

Completed photos are automatically saved to your Camera Roll, and you can optionally upload them to Facebook or Twitter from within the app.

Bottom Line

Tadaa SLR is one of several apps that let you simulate shallow depth of field in an iPhone photo, but it does so in an elegant and flexible manner. The addition of Lytro-like focus manipulation and bokeh tools makes this app a winner—albeit one you'll need to pay \$2 for.

Luxi: Use Your iPhone as a Light Meter

This handy accessory calibrates the light on your subject to suggest the best settings for your shot.

BY DAVE JOHNSON

Review

RATING
★★★★½

PRICE
\$30

COMPANY
Extrasensory
Devices

URL
www.
esdevices.com

Serious photographers may spend hundreds of dollars on an incident light meter—a small handheld device that measures the light falling on the subject. Luxi is a \$30 iPhone accessory that promises to do the same

job using just your existing phone.

Some photographers carry a separate light meter, despite having a perfectly good one built into their camera, because stand-alone incident light meters are more accurate over a wider range of photographic situations. Such meters measure the light falling on the subject from the direction of the camera, not the reflected light that bounces back into the camera.

Luxi replaces the expensive, stand-alone light meter with your iPhone. It consists of two parts: a plastic adapter that slips over your phone (versions are available for the iPhone 4/4s and the iPhone 5/5s), and a free companion app. The adapter positions a diffusion dome over the front-facing camera, making your phone look a lot like a traditional light meter. To use Luxi, start the app and hold your iPhone near your subject, pointing back in the direction that you're planning to shoot from. Based on the conditions it gauges, Luxi then recommends an aperture, a shutter speed, and an ISO.

The app is straightforward—no needless complexity or photographic voodoo. Luxi continuously shows you the relevant camera settings (aperture, shutter speed, and ISO) based on whatever light is currently hitting the diffusion dome. Tap the *Hold* button to lock in the settings, so you can walk back to your camera and not lose the relevant recommendation as the lighting changes. You can also choose which of the settings you want to lock in: Specify the ISO you want to shoot

with and your desired aperture (so you can get the depth of field you're seeking, for example), and Luxi selects the right shutter speed for your situation. Or lock a fast shutter speed, and let Luxi recommend the aperture.

In addition, though I can't imagine why you wouldn't just stick with the Luxi app—it works superbly and has no learning curve—you can use the Luxi hardware with any light-meter app in the App Store. And yes, there are several, both free and paid.

Stand-alone light meters measure the light falling on the subject from the direction of the camera, not the reflected light that bounces back.

The Luxi adapter is designed to fit a naked iPhone, so you'll likely have to remove your phone's case to use it—which is the accessory's only drawback.

Bottom Line

Luxi is ideal for advanced DSLR photographers who want to enjoy the accuracy and flexibility of an incident light meter without having to carry yet another gadget. If you don't have a light meter yet, Luxi gets you into the game for less than a tenth of the cost of a traditional one—and the accuracy is superb, delivering results of the same quality that you'd get from a "real" meter.

Luxi won't help point-and-shooters who don't worry about tweaking their camera settings, obviously, but it's appropriate for folks who are dissatisfied with what they get from their built-in light meter, especially in challenging lighting conditions.



Luxi at Work The Luxi device fits on a caseless iPhone 4, 4s, 5, or 5s.

Help Desk

Answering Your Questions and Sharing Your Tips About Getting the Most From Your Mac

Mac OS X Hints

The insider tips you won't get from Apple.

BY LEX FRIEDMAN

Rearrange Account Address Order in Mavericks Mail

Although you can easily rearrange the order of your accounts in Mavericks's Mail sidebar, the app gives you no obvious method to rearrange the order in which your email addresses appear in the From drop-down menu when you're composing a new message. Annoyingly, the Mail program lists those addresses in the order in which you first added them, which may not match your preferred ordering at all.

But there's a potential workaround: Launch System Preferences and select *Internet Accounts*. Determine the order in which you'd like the From addresses to appear. In that order, select each account in turn, and uncheck and then recheck its *Mail* option. Doing so removes and then re-adds the accounts to Mail, and afterward the From options should match your selected order. Note, however, that even though this tip works for us and for many *Hints* readers, it doesn't work for everyone.

Use a Shortcut When Adding a Mail Account

Speaking of Mail, sometimes it can briefly slow you down if you're attempting to add an account that doesn't fall under one of Apple's built-in shortcuts for popular email services. When you click



Other to add an email account—that is, not one of Apple's built-in defaults—Mail first prompts you to provide the name, email address, and password for the account. But if you know that Mail won't be able to figure out your email service provider automatically based on the data you enter, you can hold the <Option> key to change the on-screen button from *Create* to *Next*. Simply click that button, and Mail will immediately allow you to provide your mail server's details.

Sort It Out Change your From-address order by rechecking each account's Mail checkbox.

Avoid a Cluttered Download Folder

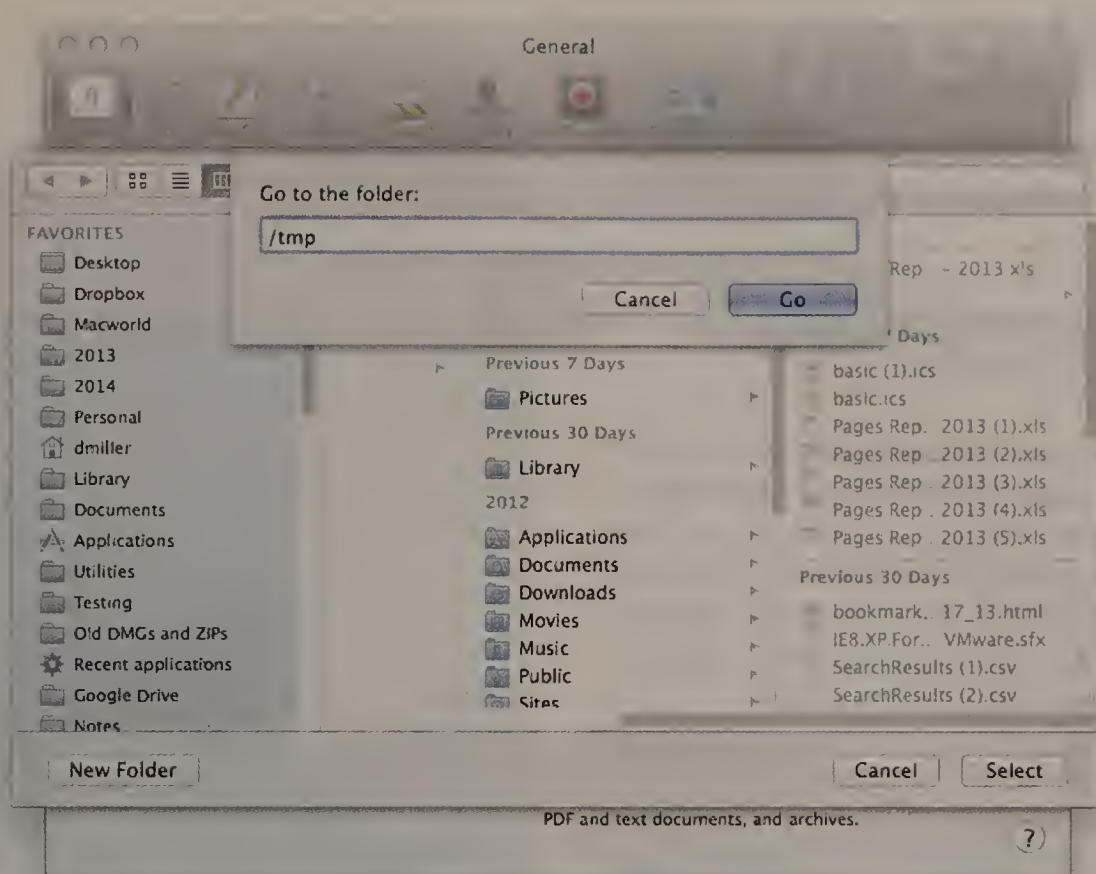
If you regularly download a lot of files, your default download folder—usually either ~/Downloads or the Desktop—can easily become cluttered. But one *Hints* reader has a clever alternative that prevents such download clutter from accumulating: He points his Mac's downloads to the /tmp folder instead. The /tmp folder is a system folder on the root level of your Mac's file system. The advantage of the /tmp folder is that your Mac automatically cleans it out on a schedule, deleting files that are more than a week old without any human intervention.

Your Mac automatically cleans the /tmp folder out on a schedule, deleting files that are more than a week old without any human intervention.

You can use /tmp as your download directory in multiple ways. One approach: In Safari, go to *Preferences*, and click the *General* tab. In the 'Save downloaded files to' drop-down menu, select *Other*. In the dialog box that appears, press the slash (/) key to make the 'Go to the folder' pane slide in; finish typing **tmp** there and then press <Return>. An alternative option is to create a symlink to the /tmp folder that you place anywhere and name something like **Temporary Downloads**. You can also drag a copy of the /tmp directory into your Finder's sidebar, or onto your desktop, as another spot to shunt files that you don't need to hold on to for a long time.

Why bother doing this? Chances are, the majority of the files you download aren't worth keeping long-term. Typically you need to access installers, PDFs, pictures, torrents, and the like just once, upon download. With this trick, instead of needing to clear out old downloads manually, you let your Mac take care of the job for you. Obviously, the system won't automatically purge any files that you move out of the /tmp folder or manually save to another location on your Mac. And if you intentionally hang on to downloaded files for a long time, this approach isn't for you. If you do attempt to use /tmp, remember that getting your downloaded files back is pretty easy—and not merely with Time Machine. In Safari, if you show the Downloads pop-over window, you can <Control>-click (right-click) any downloaded file in that list, copy the address, and then redownload the file from there.

Finally, if you're interested in performing this sort of file cleanup but would prefer to



set your own rules, you have another option: Apps such as Noodlesoft's \$28 Hazel (🔗; go.macworld.com/hazel) are designed precisely for such tasks.

Run a Google Search From Within iTunes

OS X has a systemwide service called Search With Google. By default, Search With Google is mapped to the keyboard shortcut ⌘-<Shift>-L. With any selected text, in virtually any app, you can press that trio of keys to perform an instant Google search on the term in your default browser of choice. The shortcut works even in iTunes: With any song (or podcast or other entry) selected, press ⌘-<Shift>-L, and you'll immediately perform a search on the media in question.

Self-Cleaning Downloads Take advantage of your Mac's automatically emptied /tmp folder to prevent old files from stacking up.

Use AppleScript to Work Around a Mavericks Finder Bug

In the Finder's List View in Mavericks, column widths can frequently go wonky, with the Name column appearing so wide that you can't see the other columns without scrolling horizontally. *Hints* reader Dana Nau sent an AppleScript (see the Script Box below) to resize the Finder's columns more sensibly. Note that, in previous versions of OS X, the "set width" line would have instructed the Finder to set the width to exactly 300. In Mavericks, the Finder uses that figure as a minimum width.

Script Box: Resize Finder Column

```
tell application "Finder"
    set thisFolder to target of front Finder window
    set the current view of front Finder window to list view
    set width of column id name column of list view options of Finder window 1 to 300
    close front Finder window
    open thisFolder
end tell
```


Mac 911

Solutions to your most vexing Mac problems.

BY CHRISTOPHER BREEN

Upgrading Your Mac With an SSD

Q: My wife has an iMac from 2010 (model 2389) that she says runs really slowly. I can't afford a new Mac, but as a gift I would like to make this one faster. It currently has 4GB of RAM. Would adding more memory make it noticeably faster?

George Robertson

A: That iMac will hold up to 16GB of RAM. These days 4GB is a little light, so bumping up the RAM is not a bad idea at all. However, if you do this on the sly and then expect your wife to burst into the room shouting, "George, it's a miracle! My iMac has suddenly turned into a speed demon!" you'll be disappointed. A RAM upgrade does not a miracle make.

If you're looking for the Big Reaction, you'll want to perform a Bigger Upgrade. And by that I mean adding a solid-state drive. Configuring it as the startup drive would produce the kind of night-and-day difference you're hoping to see. You can approach the task in a couple of ways.

The first is to replace the current startup drive. This option is fine if your wife hasn't accumulated (and doesn't intend to accumulate) a lot of files (or a few really large files). SSDs cost significantly more money per gigabyte than mechanical hard drives do—between \$0.55 and \$0.75 per GB. To replace a 500GB hard drive, for example, you're looking at paying more than \$300.

Your other option is to keep the current hard drive and slip in another drive.

"But hang on," you interject. "I know enough about this computer to understand that it has just one hard-drive bay."

Indeed it does. But if your wife never uses her iMac's media drive, you have another option available: Pull out the media drive and replace it with the SSD.

iFixit offers the \$40 12.7mm SATA



Optical Bay SATA Hard Drive Enclosure (go.macworld.com/ifixitsata), which was designed with exactly this thing in mind, as well as instructions for installing it. I've swapped out hard drives in this variety of iMac, and although you should be careful, it's not terribly difficult to do.

Once you've revealed your secret, the two of you should discuss where she'll store her data. If you've purchased a smallish SSD—say, a 120GB model—she'll be better off storing the bulk of her data on the original mechanical hard drive.

Hang On to Your Boot Camp Partition After Upgrading

Q: I am still running Mac OS X Snow Leopard on a 2009 MacBook Pro with a Boot Camp partition that contains Windows XP. Can I upgrade to a more recent version of the Mac OS without losing that partition?

via the Internet

A: I've seen reports of people having no problem—they update their Macs to Mavericks, and their Boot Camp partition works as well as it ever has. Regrettably, I've also found tales of woe from people who can no longer access their partitions.

As with any operation in which you risk losing data, it makes sense to create a backup first. In the case of a Boot Camp partition, however, this precaution isn't possible with Time Machine, as Apple's backup technology can't back up and restore such partitions.

Instead, you must turn to another tool. One option is Twocanoes' \$30 Winclone 4 (twocanoes.com/winclone). With this utility, you create an image of your Boot Camp partition and tuck it away on another drive. If you then update Mac OS and find that the Boot Camp partition is gone, you can create a new Boot Camp partition and restore your image to it.

The other option is to use virtualization software such as Parallels Desktop for Mac

(go.macworld.com/parallels) or VMware Fusion (go.macworld.com/vmware). With either application, you can migrate your Boot Camp partition into a virtual machine that you can run within the Mac environment. Operationally the advantage of this approach is that you needn't boot into an entirely different operating system. Plus, the two environments can interact: You can, for example, move files between the Mac and Windows worlds. And you can back up these virtual machines with Time Machine—no Winclone required.

Slim Down Your Inbox

Q: For years I've let incoming email pile up in my inbox. That strategy has broken down to the point where I can't find important messages. I want to be more organized, but I don't know where to start. Any hints?

Robert Matheson

A: I employ mail rules like nobody's business. By creating conditions that act on both existing and incoming email, you can tidy up an inbox in next to no time.

Begin by weeding out organizational email—namely, notifications from Amazon, Facebook, Google+, iTunes, LinkedIn, Netflix, Twitter, and so on. In Apple's Mail create a new mailbox within the account that receives the notification, or create one that appears under the On My Mac heading. (Choose *Mailbox* → *New Mailbox*, select a location for it in the sheet that appears, and then name the mailbox.) Click a representative message, such as a notification that you've just acquired a new Twitter follower. Choose *Mail* → *Preferences* and click the *Rules* tab.

Click *Add Rule*, and in the sheet's Description field enter a name for your rule—**Twitter**, in our example. In the first pop-up menu, choose *From*. Over in the field to the right, you'll see the return address of the selected message. You could leave it as it is, but I recommend stripping out everything but the domain name; in our example, you'd remove everything but 'twitter.com' for a Twitter notification. I've found that organizations often use a variety of email addresses

Delete My Account

If you do not think you will use Facebook again and would like your account deleted, we can take care of this for you. Keep in mind that you will not be able to reactivate your account or retrieve any of the content or information you have added. If you would still like your account deleted, click "Delete My Account".

Delete My Account

Cancel

for different kinds of notifications—@info.example.com and @member.example.com, for instance—and if you include everything after the @ symbol, some notifications will slip past your rule.

Below this field, configure the action to read *Move Message to Mailbox Twitter*. Click *OK*. Mail will ask whether to apply your rules to the currently selected mailboxes. Click *Apply*. Messages that meet the condition you've just created should move from your inbox. (At this point you can simply delete them if you don't care to hang on to this kind of stuff.)

Repeat the above procedure for other kinds of messages you routinely receive. If you feel up to it, additionally adopt that warm glow that surfaces when you realize that future messages satisfying these conditions will be filtered automatically.

In the previous example we filtered unimportant email. But a rule needn't apply only to email you don't care about: You can also use it for messages that matter a great deal to you—for example, missives from your coworkers or relatives. In this situation you'd use the same kind of From filtering and, if you like, individualized mailboxes. In my case, I might create a rule and mailbox for any messages from macworld.com. And for email from the boss, I would add *Set Color of Background to Red* and *Send Notification* actions to that rule so I'd be sure to see important messages right away.

What I've discussed so far addresses email on your computer. But many people first see their email messages on an iOS device—and this kind of filtering does you little good with that, since it applies only after the email reaches your computer.

If you're in that situation, create server-side rules to spell out how to handle your email when it hits your IMAP account. They

Farewell Facebook If Facebook needs you more than you need it, delete your account.

work in much the same way as rules on your Mac do. The advantage is that they will clean up your email before you see it on your iPhone, iPad, or iPod touch (as well as on your computer and in webmail).

For example, if I wanted to filter all the Google+ notifications my Gmail account gets, I'd travel to the Gmail website, log in to my Gmail account, choose *Settings* from the gear-icon menu, click the *Filters* link, click the *Create a New Filter* link, enter **plus.google.com** in the From field, and click *Create Filter With This Search*. Then, in the next pane, I'd select *Apply the Label*, choose *New Label*, enter a name for my label in the next window, click *Create*, and then click *Create Filter* after enabling the *Also apply filter to matching conversations* option. This item will filter existing messages as well as those that arrive in the future.

You can speed up the process a bit by selecting a representative message and, from the More menu, choosing *Filter messages like these*. This action takes you to the condition pane, where you can then set about creating your filter.

Permanently Delete Your Facebook Account

Q: I heard that Facebook tracks not only everything you post, but also things you've chosen not to. That's a little too creepy for me, and I want to delete my account. How do I do that?

Amy Campbell

A: According to reports, Facebook does indeed keep tabs on when people enter text in the Facebook browser interface

and then choose to not share it (a practice the company terms “self-censorship”). But according to these same reports, instead of collecting the text you type, Facebook merely notes when you fail to share it.

If that specific behavior creeps you out, you might choose to compose Facebook messages in a text editor instead. When you’re sure that you want to share your message, you can paste that text into your browser and post it. This tactic will prevent the service from tracking messages that you decide against posting.

If this is a “last straw” kind of decision, though, and you no longer wish to have any connection to Facebook, read on.

Travel to Facebook’s Delete Account page (go.macworld.com/deletefb). You’ll be required to log in to your account with your username and password. Once you are logged in, choose the option to delete your account (see “Farewell Facebook” on page 91). You’ll be asked to enter your password once again, as well as to enter some CAPTCHA text (the scrambled text designed to fool Web robots).

Do so, and then confirm that you want out. The service will tell you that your account will be deleted in two weeks. This window of time provides you with the opportunity to think your decision over. If you conclude that you don’t wish to leave after all, just return to this page and click the *Cancel Deletion* button.

Note that there’s a difference between deleting a Facebook account and deactivating one. When you delete the account, Facebook no longer uses the content it held, and you can’t recover it (Facebook suggests that you download your information before deleting an account). When you deactivate an account, your timeline and your associated information disappear, but they’re not gone; rather, everything is in a state of suspended animation. You can later return and reactivate the account by logging on with your associated email address and password.

Make PDFs Print Within Safari

Q: I am unable to print from a site that uses a Silverlight-based Web app. In particular, when I try to use

Mac 101

Mailing iPhoto Images

Q: I just installed the latest version of iPhoto on my new Mac, and now I want to email some pictures to a friend. I found the Share button and the Mail option within, but iPhoto seems to want to mail everything in some kind of template. Isn’t there some method that I can use to simply attach the pictures to a regular email message?

John Hasty



A: There is a simpler approach. iPhoto offers its templates as a convenience—it not only places the images in a pleasing pattern (complete with background in some cases) but also optimizes the images so that the bunch of them will fit in that email message and not cause the email to bounce back because the message was too big.

If you would like to do things the old-fashioned way, choose *iPhoto* → *Preferences*, and in the General tab click the *Email photos using* pop-up menu. Choose *Mail* from this menu, and close the window.

When you next select some photos and choose *Share* → *Email*, a small window will appear. Within that window you choose the size of your images as well as whether to include titles, descriptions, and location information, and then you click *Compose Message*. Mail will launch and create an unaddressed message with your attached images.

the ‘Open as PDF’ or ‘Save as PDF’ commands within the Print dialog box in hopes of generating a nice PDF, nothing happens.

Reuben Marquez

A: This problem is due to new sandboxing rules that Apple implemented for Safari plug-ins. Although the feature is intended to keep you safe from security exploits that affect plug-ins, it can have unintended side effects—such as the inability to print.

The solution is to configure Safari to let you run certain plug-ins in “unsafe” mode. Scary though it sounds, this can be quite safe; plus, you can enable the mode for individual plug-ins, and only for specific sites that you designate.

The next time you visit a problematic website, launch Safari’s preferences, go to the *Security* pane, and click *Manage Website Settings*. On the left, select the affected plug-in (Silverlight in this case), and you’ll see a list of currently open websites that are using that plug-in.

Over in the drop-down menu next to the specific site, choose *Run in Unsafe Mode*. A dialog box will warn you that this option will enable the plug-in on this site to access your personal documents and data. Forge ahead and click *Trust*.

Quit and relaunch Safari, and revisit the site in question. (Taking this step forces Safari to reload the plug-in in its new, unsafe mode.) If the browser’s plug-in sandboxing was indeed the culprit, you may find that your ills are now cured.

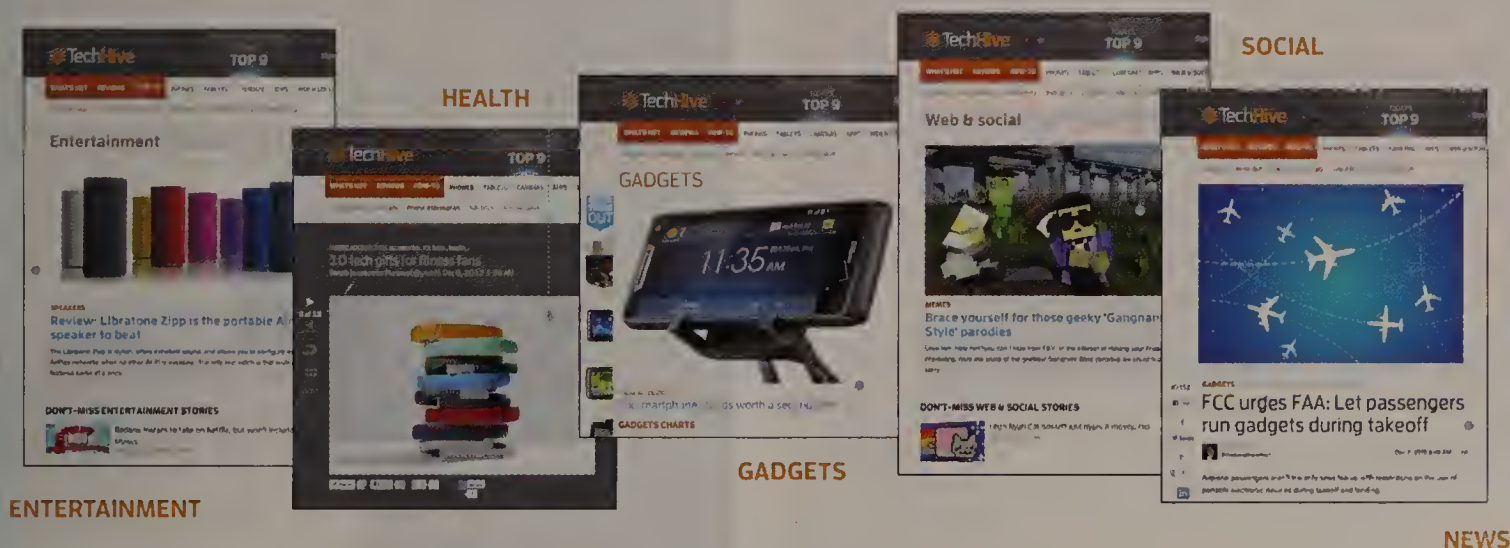
You should follow this procedure only for websites that you’re sure you can trust—by and large, Safari’s sandboxing features help to keep your personal data safe. But if you’re running into problems where even trusted sites aren’t functioning as they should, this solution might save you some hair-tearing.

Want more great Mac and iOS tips? Check out our “Mac 911: Tips, Tricks & Troubleshooting” session at Macworld/iWorld 2014 in San Francisco, March 27–29 (www.macworldiworld.com).





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I explore and try to understand the way our use of new media changes people and society, then communicate what I've found. I've written books and magazine articles, created videos, blogged, taught courses at Berkeley and Stanford, and offered my own online courses at Rheingold U. You can find out about these activities and more—such as my artwork!—at rheingold.com.

What hardware do you use?

A quad-core **Mac Pro** with 16GB of RAM, four 1TB drives, and 30-inch and 24-inch monitors. I do some video editing, hence the RAM and the big monitor. I also do a lot of writing from notes and editing video from storyboards, and the dual screens help.

I also have a **MacBook Pro**. I had one of the first Macintosh laptops when I worked at *Wired*: a **PowerBook Duo**, with a dock

that connected to one of those huge tube screens. My home office is three steps from my garden. As soon as I had a laptop, I started working in the garden, barefoot, under the plum tree; once Wi-Fi became available, I decided to work in my “outdoor office” for most of the day, whenever weather permits. (In my part of the world, that's usually April through October.) It's been four years since I bought my last **MacBook Pro**; I'll probably end up with an **Air** within a couple of years. I also have an **iPhone 4s** and a third-generation **iPad**.

And what software?

For writing, I love **Scrivener**. I've also used **Devonthink** and **TheBrain** for organizing large projects. I still use **Apple Mail**, but I use **Gmail** as a backup. Also: **Graphic-Converter**, **Skitch**, **BBEdit**, **Spotify**, **Microsoft Word** and **PowerPoint**, and **Skype**.

I use **Diigo** and **Evernote** to save links, snippets, and articles. With a big book project, I mine those collections and move appropriate snippets, along with tags and citations, into **Devonthink**. When I start writing, I keep **Devonthink** open on one screen and move the most relevant references into **Scrivener**.

At one time, I knew how to use **Final Cut Pro**, but **Camtasia** does everything I need much more easily.

What would be your dream setup?

I wouldn't mind upgrading my laptop to an **Air**, and eventually I'll need to upgrade my **Mac Pro**. I'd like to have 3G on my **iPad**. Maybe a **Wacom** tablet for art stuff. Other than that, this is my dream setup.

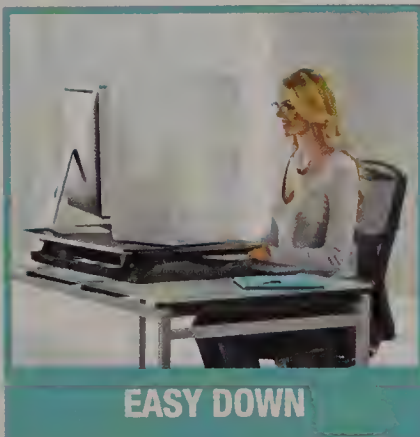
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